4468

ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS, AND PLACES OF GROWTH:

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

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PRESIDENT OF THE LINNÆAN SOCIETY.

THE FIGURES BY
JAMES SOWERBY, F.L.S.

——"VIRESQUE ACQUIRIT EUNDO."——*Virg.*

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MDCCCVIII.

G.R.
III.
BRITISH MUSEUM

SYSTEMATICAL INDEX

TO

VOL. XXVII.

	Tab.
Triandria.	
FESTUCA cæsia	1917
—— triflora	1918
Bromus multiflorus	1884
—— squarrosus	1885
Pentandria.	
Chenopodium hybridum	1919
Ulmus campestris	1886
—— montana	1887
Hexandria.	
Hyacinthus racemosus	1931
Rumex palustris	1932
Icosandria.	
Rosa collina	1895
—— scabriuscula	1896
Didynamia.	
Lamium incisum	1933
Tetradynamia.	
Cheiranthus fruticulosus	1934
—— incanus	1935
Gynandria.	
Orchis militaris	1873
Monoecia.	
Carex elongata	1920
Dioecia.	
Salix amygdalina	1936
—— decipiens	1937
—— herbacea	1907
—— reticulata	1908
—— cinerea	1897
—— viminalis	1898
Populus tremula	1909
—— nigra	1910
Cryptogamia.	
Equisetum sylvaticum	1874
Phascum piliferum	1888
Gymnostomum Griffithianum	1938
—— ovatum	1889
Splachnum gracile	1921

	Tab.
Cryptogamia.	
Grimmia heteromalla	1899
—— homomalla	1900
Dicranum ellipticum	1901
Pterogonium sciuroides	1903
Hookeria lucens	1902
Hypnum inundatum	1922
Bryum cæspititium	1904
Polytrichum alpinum	1905
—— rubellum	1939
—— sexangulare	1906
Jungermannia trichomanis	1875
Opegrapha Lyelli	1876
—— microscopica	1911
—— notha	1890
Lichen stigmatellus	1891
—— Hoffmanni	1940
—— frigidus	1879
—— citrinellus	1877
—— scabrosus	1878
—— argenus	1923
—— corticola	1892
—— crassus	1893
—— circinatus	1941
—— cycloselis	1942
—— marginalis	1924
—— fragrans	1912
—— bellidiflorus	1894
—— jubatus	1880
Fucus tenuissimus	1882
—— cristatus	1925
—— Griffithsiæ	1926
—— Mackaii	1927
Ulva furcellata	1881
—— multifida	1913
Conferva genuflexa	1914
—— tæniæformis	1883
—— striatula	1928
—— ærea	1929
—— isogona	1930
—— flacca	1943
—— flexuosa	1944
—— tetrica	1915
—— Arbuscula	1916

ALPHABETICAL INDEX

TO

VOL. XXVII.

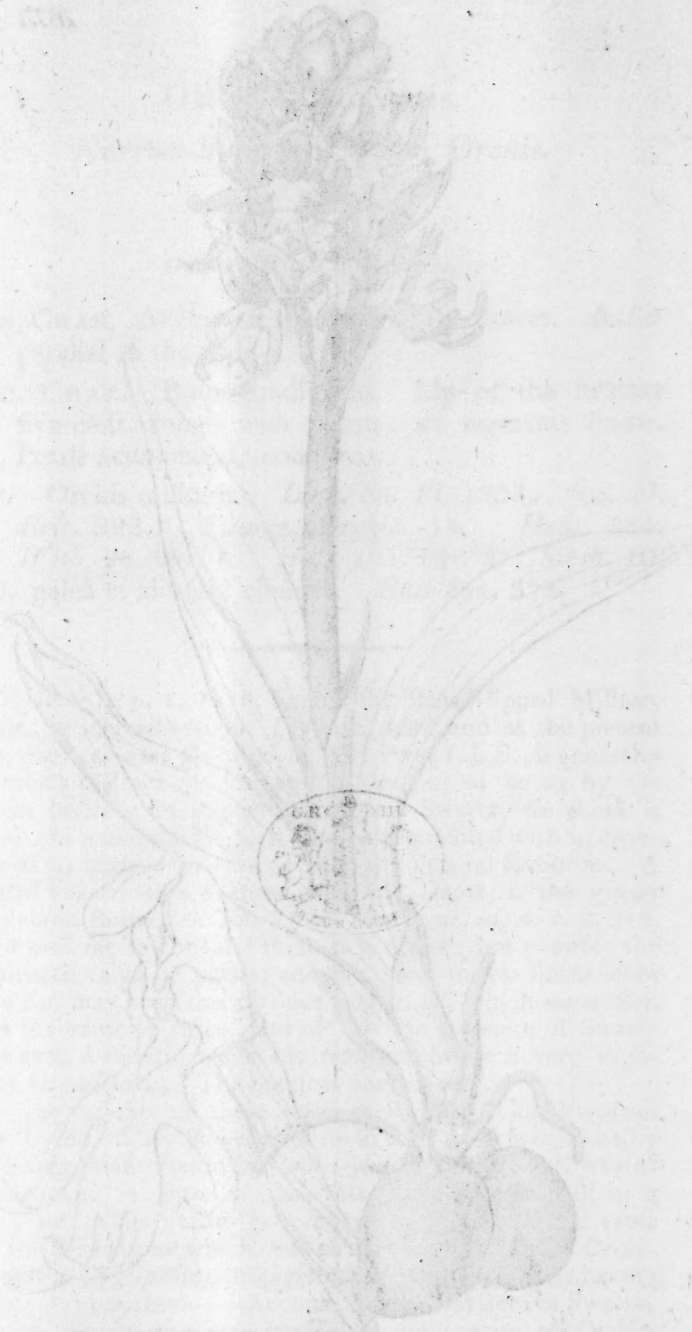
	Tab.
BROMUS multiflorus	1884
—— squarrosus	1885
Bryum cæspititium	1904
Carex elougata	1920
Cheiranthus fruticulosus	1934
—— incanus	1935
Chenopodium hybridum	1919
Conferva ærea	1929
—— Arbuscula	1916
—— flacca	1943
—— flexuosa	1944
—— genuflexa	1914
—— isogona	1930
—— striatula	1928
—— tæniæformis	1883
—— tetrica	1915
Dicranum ellipticum	1901
Equisetum sylvaticum	1874
Festuca cæsia	1917
—— triflora	1918
Fucus cristatus	1925
—— Griffithsiæ	1926
—— Mackaii	1927
—— tenuissimus	1882
Grimmia heteromalla	1899
—— homomalla	1900
Gymnostomum Griffithianum	1938
—— ovatum	1889
Hookeria lucens	1902
Hyacinthus racemosus	1931
Hypnum inundatum	1922
Jungermannia trichomanis	1875
Lamium incisum	1933
Lichen argenus	1923
—— bellidiflorus	1894
—— circinatus	1941
Lichen citrinellus	1877
—— corticola	1892
—— crassus	1893
—— cycloselis	1942
—— fragrans	1912
—— frigidus	1879
—— Hoffmanni	1940
—— jubatus	1880
—— marginalis	1924
—— scabrosus	1878
—— stigmatellus	1891
Opegrapha Lyelli	1876
—— microscopica	1911
—— notha	1890
Orchis militaris	1873
Phascum piliferum	1888
Polytrichum alpinum	1905
—— rubellum	1939
—— sexangulare	1906
Populus nigra	1910
—— tremula	1909
Pterogonium sciuroides	1903
Rosa collina	1895
—— scabriuscula	1896
Rumex palustris	1932
Salix amygdalina	1936
—— cinerea	1897
—— decipiens	1937
—— herbacea	1907
—— reticulata	1908
—— viminalis	1898
Splachnum gracile	1921
Ulmus campestris	1886
—— montana	1887
Ulva furcellata	1881
—— multifida	1913

INDEX

OF THE ENGLISH NAMES

IN VOL. XXVII.

	Tab.
ARCHANGEL, cut-leaved	1933
Aspen	1909
Beardless-moss, hairy-leaved	1889
——— succulent	1938
Brome-grass, corn	1885
——— downy rye	1884
Carex, elongated	1920
Conferva, combined, bent	1914
——— dirty red	1915
——— disjointed, streaked	1928
——— equal-jointed, verdigr.	1930
——— green, flaccid	1943
——— ——— zigzag-branch.	1944
——— red shrubby	1916
——— tape-worm	1883
——— unequal-jointed, verd.	1929
Dock, yellow marsh	1932
Dog-rose, rough-stalked	1895
——— roughish-leaved	1896
Earth-moss, bearded	1888
Elm, broad-leaved	1887
—— common	1886
Feather-moss, marsh	1922
Fescue-grass, sea-green	1917
——— three-flowered	1918
Fork-moss, elliptical	1901
Fucus, crested, tufted	1925
——— Griffithsian	1926
——— Mackaian	1927
——— slender, tapering	1882
Gland-moss, zigzag	1921
Goose-foot, maple-leaved	1919
Grimmia, curve-leaved	1899
——— pale, curled	1900
Hair-moss, alpine	1905
——— reddish dwarf	1939
——— six-sided	1906
Hookeria, shining	1902
Horsetail, branched wood	1874
Hyacinth, starch	1931
Jungermannia, fern	1875
Laver, laciniated brown	1913
——— reddish forked	1881
Lichen, black and white bark	1892
——— daisy-flowered, cup	1894
——— fragrant, gelatinous	1912
——— Hoffmannian	1940
——— lemon-peel crusted	1877
——— little dot	1891
——— marginal gelatinous	1924
——— orbicular dusky	1942
——— radiant crustaceous	1941
——— rugged-shielded sulphur	1878
——— silvery leprous	1923
——— thick	1893
——— thin tartareous	1879
——— wiry	1880
Opegrapha, microscopic	1911
——— spurious	1890
——— white bordered	1876
Orchis, narrow-lipped, military	1873
Osier, common	1898
Poplar, black	1910
——— trembling	1909
Rock Hair	1880
Stock, hoary shrubby	1935
Thread-moss, lesser matted	1904
Wall-flower, wild	1934
Willow, almond-leaved	1936
——— grey	1897
——— least	1907
——— varnished	1937
——— white welsh	1937
——— wrinkled	1908
Wing-moss, squirrel-tail	1903
Wych Hasel	1887



Apr. 1 1808. Published by Jas Sowerby London.

ORCHIS militaris.

Narrow-lipped Military Orchis.

GYNANDRIA Monandria.

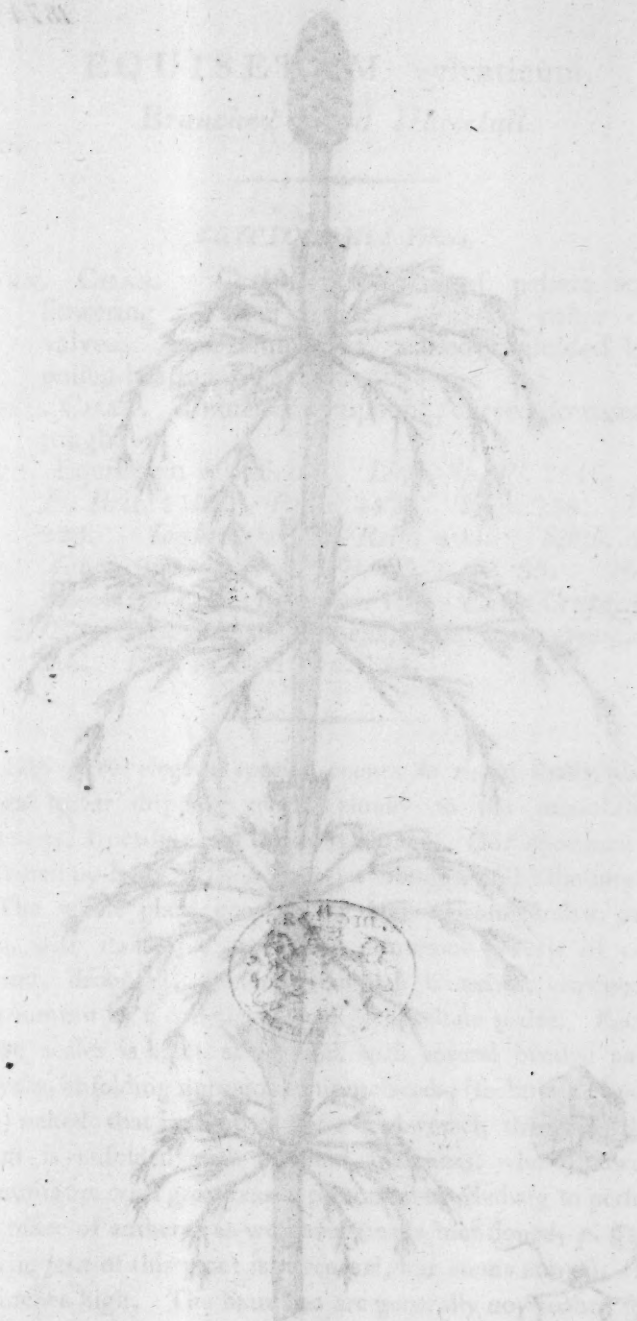
GEN. CHAR. *Nectary* a spur behind the flower. *Anther* parallel to the style.

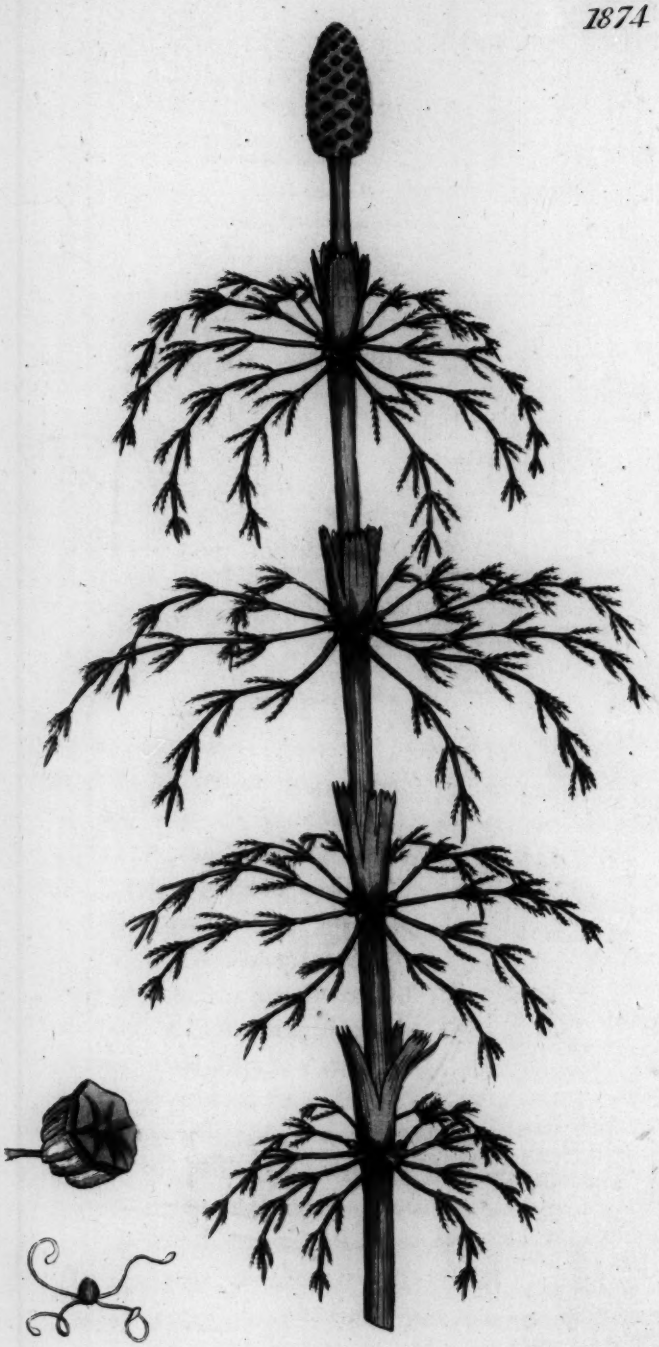
SPEC. CHAR. Bulbs undivided. Lip of the nectary five-cleft, rough with points; its segments linear. Petals acuminated, confluent.

SYN. Orchis militaris. *Linn. Sp. Pl.* 1333. *Sm. Fl. Brit.* 922. *Swartz. Orchid.* 14. *Huds.* 384. *With.* 26. *var.* 3. *Hull.* 194. *var.* 3. *Sibth.* 10. O. galeâ et alis ferè cinereis. *Raii Syn.* 378.

WE have in *v.* 1. *t.* 16, figured the Broad-lipped Military Orchis, or *O. militaris* β, *Fl. Brit.* 923; and as the present plant, gathered near Dartford by Mr. Peet, F.L.S., is generally esteemed a distinct species, and is decided to be so by the greatest botanist in this tribe Professor Swartz, we think it essential to make the English student acquainted with it, especially as its beauty and rarity render it a general favourite. A frequent examination of these charming plants in the grassy walks about Rome, see *Tour on the Continent, ed.* 2. *v.* 2. 312, determined me to consider them as varieties; but possibly the acuminated calyx or petals, and the more or less linear lobes of the lip, may keep this distinct from *t.* 16, which must then retain the name of *fusca*, and of this the *moravica* of Swartz is not even a variety, while his *tephrosantos* is a very slight one of *O. militaris*. The bracteas vary in size.

All the varieties of these two species smell like Woodruff while drying. They flower with us in May, and love a chalky soil, being chiefly found in Kent and Oxfordshire. If treated as mentioned in *Intr. to Bot.* 110, they succeed well in a garden-pot. The reader is referred to *p.* 458 of the same work for the reasons which lead us now to refer all the *Orchideæ*, except *Cypripedium*, to *Gynandria Monandria*, they having properly but 1 anther.——According to the system of Swartz, *Satyrium hircinum*, *viride* & *albidum* are species of *Orchis*, and Nature confirms this arrangement.





Apr.1.1805. Published by Jas. Sowerby, London.

EQUISETUM sylvaticum.

Branched Wood Horsetail.

CRYPTOGAMIA Filices.

GEN. CHAR. *Cathin* composed of peltate scales, flowering on their inside. *Partial calyx* of 2 valves. *Seeds* numerous, naked, enfolded by 4 pollen-bearing filaments.

SPEC. CHAR. Branches compound, curved downwards, rough.

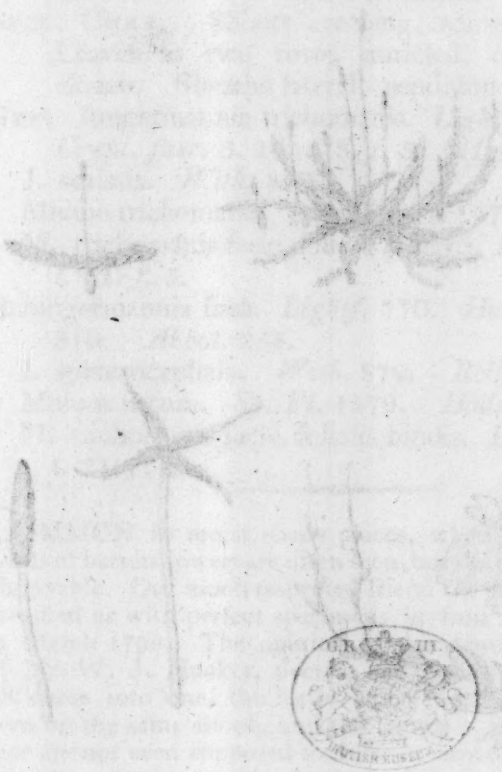
SYN. Equisetum sylvaticum. *Linn. Sp. Pl.* 1516. *Sm. Fl. Brit.* 1102. *Huds.* 447. *With.* 753. *Hull.* 233. *Lightf.* 646. *Relh.* 403. *Sibth.* 263. *Abbot.* 221. *Bolt. Fil.* 60. *t.* 82, 33. *Hedw. Theor.* 33. *t.* 1. *Raii Syn.* 130. *Ehrh. Crypt.* 161.

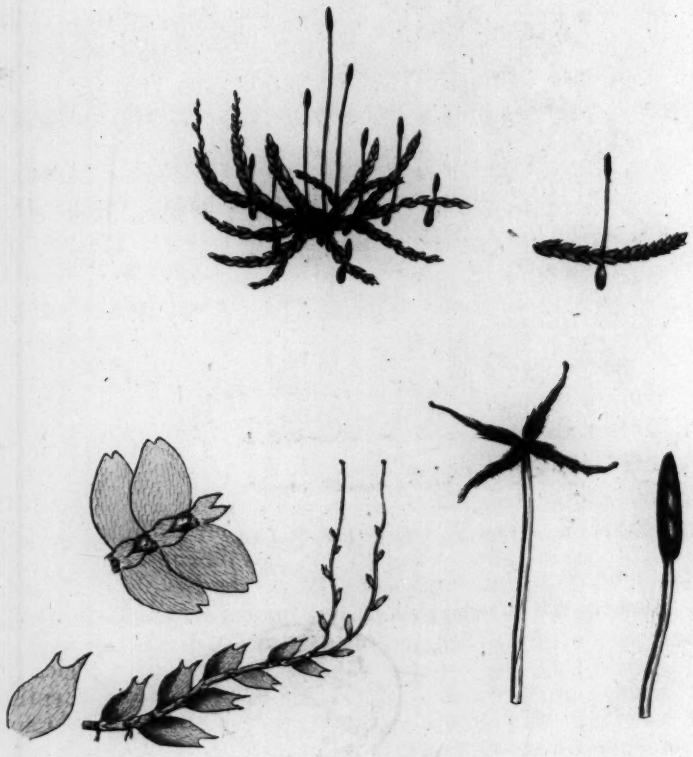
β. E. sylvaticum procumbens, setis uno versu dispositis. *Dill. in Raii Syn.* 131.

THIS very elegant species occurs in moist shady places, often under dripping rocks, chiefly in the mountainous counties, fructifying in the early spring. Our specimen was gathered by Lady Wilson between Glasgow and Edinburgh.

The whole plant conveys the idea of some Indian palm-tree, with its simple stem, and numerous whorls of compound, drooping, slender, roughish branches, crowned at the summit by a cone tessellated with peltate scales. Each of these scales is beset at its back with several bivalve partial calyxes, enfolding numerous minute seeds, (technically speaking) naked, that is, destitute of a seed-vessel, though each of them is enfolded with 4 spiral filaments, whose powdery summits are with great reason presumed by Hedwig to perform the office of anthers, as we have already mentioned, *p.* 915.

The root of this plant is perennial, the stems annual, 12 or 18 inches high. The branches are generally not pushed forth till the cone is nearly ripe.





Apr. 1.1808. Published by Jas Sowerby London.

JUNGERMANNIA trichomanis.

Fern Jungermannia.

CRYPTOGAMIA Hepaticæ.

GEN. CHAR. Male flowers sessile.
Capsule on a stalk rising from a sheath, of 4 valves.
Seeds attached to elastic filaments.

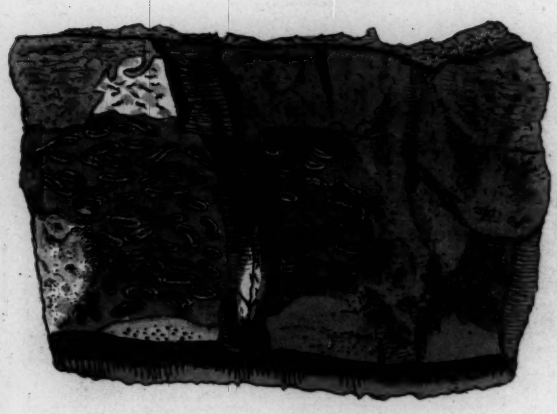
SPEC. CHAR. Shoots creeping, somewhat branched. Leaves in two rows, auricled, ovate, entire or cloven. Sheaths lateral, pendulous, hairy.

SYN. Jungermannia trichomanis. *Lightf.* 769. *Dicks. Crypt. fasc.* 3. 10. *t.* 8. *f.* 5. *Hull.* 279.
J. scalaris. *With.* 870.
Mnium trichomanis. *Linn. Sp. Pl.* 1578. *Huds.* 473.
M. trichomanis facie, foliolis integris. *Dill. Musc.* 236. *t.* 31. *f.* 5.

β. Jungermannia fissa. *Lightf.* 770. *Hull.* 278. *Sibth.* 310. *Abbot.* 255.
J. sphærocephala. *With.* 872. *Relh.* 438.
Mnium fissum. *Sp. Pl.* 1579. *Huds.* 473.
M. trichomanis facie, foliolis bifidis. *Dill. Musc.* 237. *t.* 31. *f.* 6.

COMMON in moist shady places, where its little powdery heads of barren flowers are often seen, but the capsules are rarely observable. Our much respected friend the Rev. R. B. Francis favoured us with perfect specimens in fruit from near Holt, in March 1798. The opinion of this gentleman, as well as of Mr. W. J. Hooker, decides us to unite two species of Dillenius into one, the leaves being found cloven and entire even on the same shoot, and the figures 5 and 6 of that author are not even supposed to differ in any other respect. It is strange that he should refer these plants to *Mnium*, and that Linnæus should follow him, though Micheli had rightly determined their genus.

The pale shoots creep over the moist earth by means of little tufted roots at the base of the auricles which grow in pairs under each leaf. The leaves are ovate or roundish, entire at the edge, mostly cloven at the point. Fruitstalks from little oblong, hairy, black, lateral, pouch-like sheaths, very remarkable for being pendulous from the branch, of which we have some exotic examples. The valves of the capsule are narrow and acute.



Apr. 1. 1806. Published by Ja.s Sowerby London.

OPEGRAPHA Lyelli.

White-bordered Opegrapha.

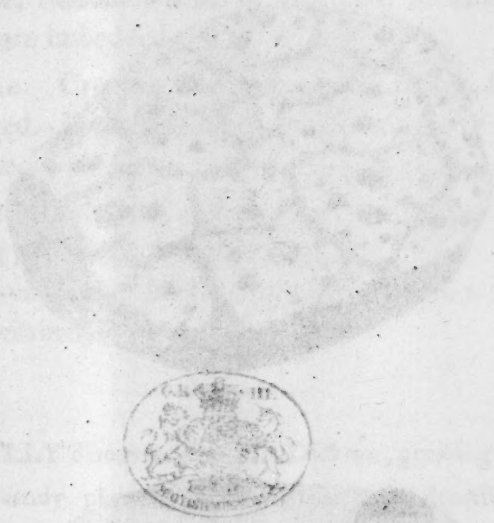
CRYPTOGAMIA Algæ.

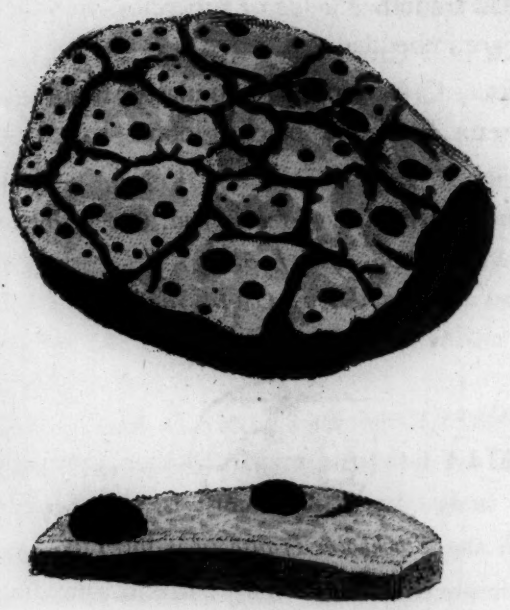
GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust smooth, membranous, pale olive. Clefts prominent, turgid, crowded, curved, obtuse, greyish and powdery, with an elevated, white, powdery border.

AS far as we can discover, either from the specimens or descriptions of Dr. Acharius, this is a species unknown to him, and we have named it in honour of its discoverer, Charles Lyell, Esq., who found it on the rugged bark of trees in the New Forest, and to whom we have frequently been obliged for rare cryptogamous specimens.

This *Opegrapha* ranges near *pulverulenta*, *t.* 1754, and *serpentina*, *t.* 1755. Its crust is remarkably smooth, and almost waxy in appearance, of an uniform pale olive green. The clefts are numerous and crowded, mostly simple, sometimes branched, various in length, curved, obtuse or rounded at each end, very prominent, their disk broad and convex, hard, black, but clothed with a grey or whitish powder. Their border is extremely peculiar, being thick, perfectly white, and powdery, quite different in texture, surface, and colour from the crust whence it seems to originate.





Apr.1 1808. Publish'd by Jas Sowerby London.

LICHEN citrinellus.

Lemon-peel-crusted Lichen.

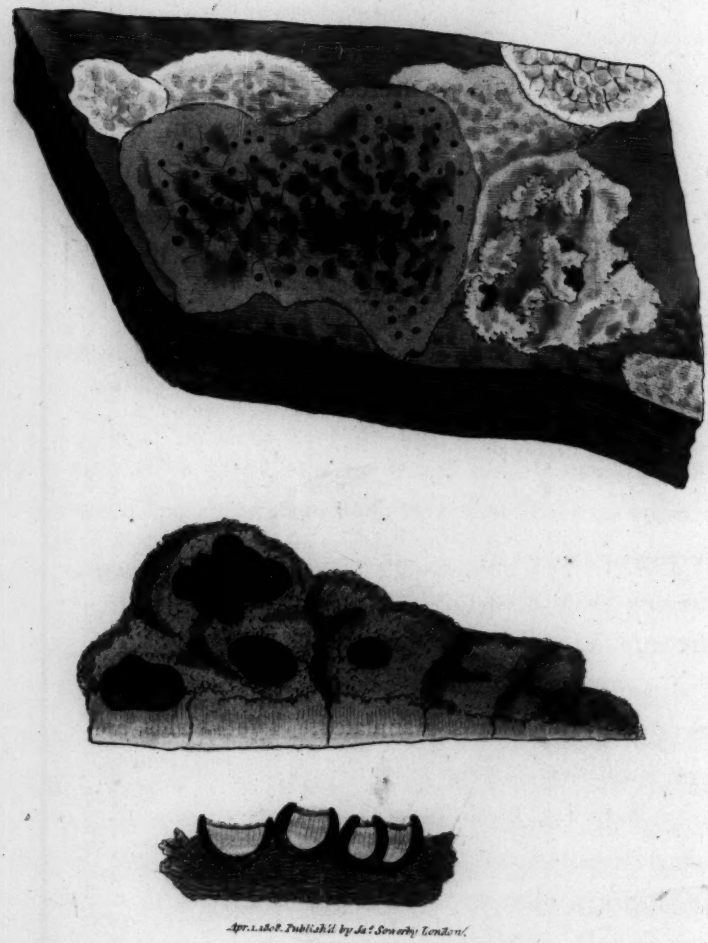
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, granulated, friable, lemon-coloured. Tubercles black, globose, solitary or aggregate.

SYN. Lichen citrinellus. *Ach. Prod.* 64. *Act. Holm. ann.* 1795. 135. *t.* 5. *f.* 5.
L. flavo-virescens. *Dicks. Crypt. fasc.* 3. 13. *t.* 8. *f.* 9.
Lecidea citrinella. *Ach. Meth.* 47.

ORIGINALLY discovered by Mr. Dickson, growing on the ground in sandy places. The crust is well described by Acharius in the *Stockholm Transactions* for 1795, as thick, and rather deeply rooted in the earth, friable, spreading irregularly, unequal, of the vivid greenish-yellow hue of a scarcely ripe lemon, and composed of smooth round granulations, intermixed with some powdery particles. It is nearly of the same hue within. The tubercles are extremely black; when separate, as Acharius describes them in the work just quoted, they are small and not very evident, but in our specimens they mostly form clusters, each resembling one tolerably large shield, and making a rugged mass, often broken by intervening particles of the crust.



Apr. 1. 1808. Published by Ja.s Sowerby, London.

LICHEN scabrosus.

Rugged-shielded Sulphur Lichen.

CRYPTOGAMIA Algæ.

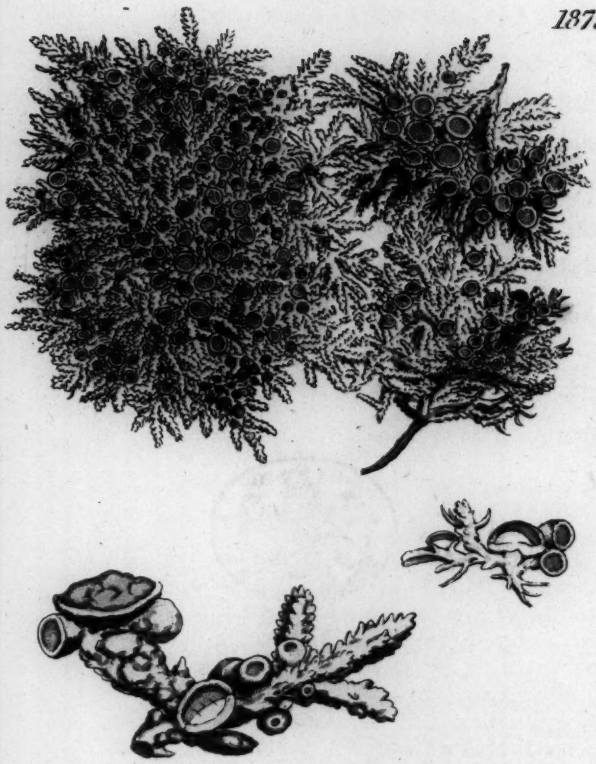
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust powdery, pale yellowish green. Shields sunk in the crust, aggregate, black, with an elevated black border.

SYN. Lecidea scabrosa. *Ach. Meth.* 48.

FOUND by Mr. W. Borrer on tiled roofs in Sussex, and on flints scattered over the downs of that county, not uncommon.

A considerable affinity, and yet many precise marks of difference, exist between this and the foregoing. The crust of *L. scabrosus* is thinner, paler, more greenish, and truly powdery, by no means granulated. The shields are sunk in its substance so as to be level with its surface, very black, with a thick border of the same substance and colour. Their disk is slightly concave, by age sometimes convex. When the shields happen to be solitary and simple, they are very small, but they are usually aggregate or compound, and in that case each group looks like one irregular shield, with a wavy border, running in concentric lines or plaits over the disk.



May 1.1808. Published by Jas Sowerby, London.

LICHEN frigidus.

Thin Tartareous Lichen.

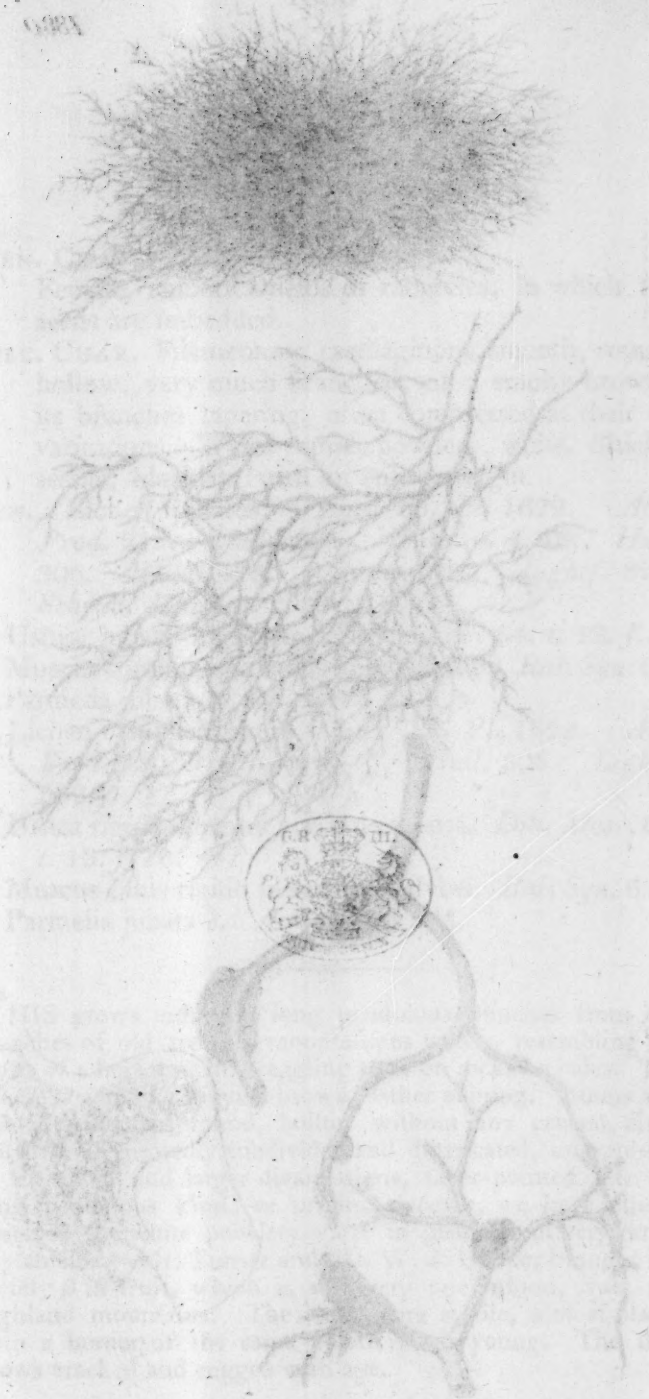
CRYPTOGAMIA Algæ.

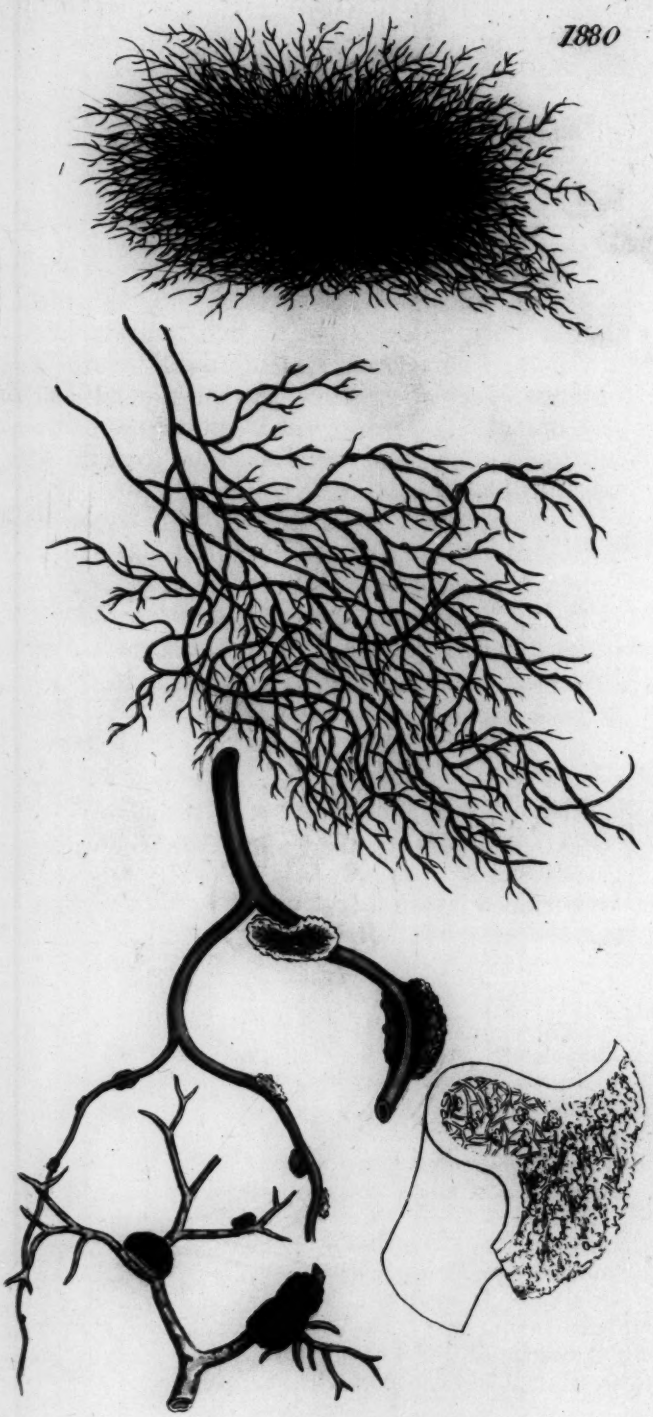
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thin, smooth, closely adherent, whitish, bearing branched bristles. Shields yellowish flesh-coloured, with a white smooth border.

SYN. Lichen frigidus. *Swartz. Meth. Musc.* 36. *t.* 2. *f.* 4. *Dicks. Crypt. fasc.* 2. 19. *Dr. Pl. n.* 49. *With. v.* 4. 22. *Hull.* 290.
Parmelia tartarea β. *Ach. Meth.* 166.

GATHERED by Mr. G. Don and the late Mr. Mackay on the hills above Blair in Athol. It is found upon the highest mountains only, nearly on a level with perpetual snow, growing upon decayed mosses or other small plants, which its thin tenacious crust closely envelops like a stalactitical incrustation, taking all their forms. It frequently throws out slender branching bristles, like *L. upsaliensis*, *t.* 1634. The whole is of a cream-colour, smooth and shining, the margins of the shields only being less polished, and their disk of a yellowish flesh-colour, but less yellow than in *L. tartareus*, *t.* 156, neither is the crust thick, tartareous, and warty, like the latter, nor has it (as far as we can discover) the same pungent smell. Dr. Acharius however has reduced it to a variety of *tartareus*, as he has the *upsaliensis* to *perellus*, *t.* 727, considering the bristles of their crusts as an accident. Some states of indubitable *tartareus*, which I have traced on its native mountains, favour this opinion, and yet still remain different from *frigidus*, whose branched or compound bristles are very peculiar. There being no coloured figure of this rare *Lichen* extant, we have deemed it essential to our work, even under the doubts just mentioned.





May 1.1808. Published by Jas. Sowerby London.

LICHEN jubatus.

Wiry Lichen, or Rock Hair.

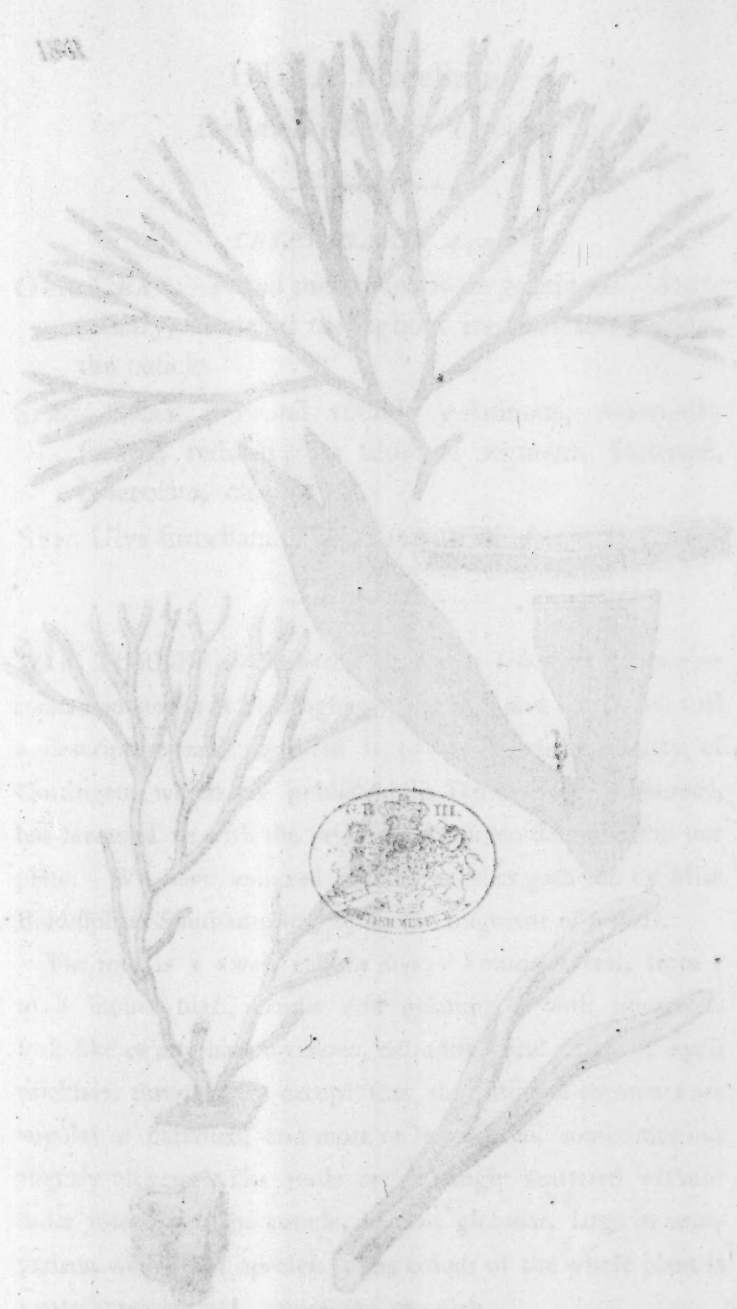
CRYPTOGAMIA Algæ.

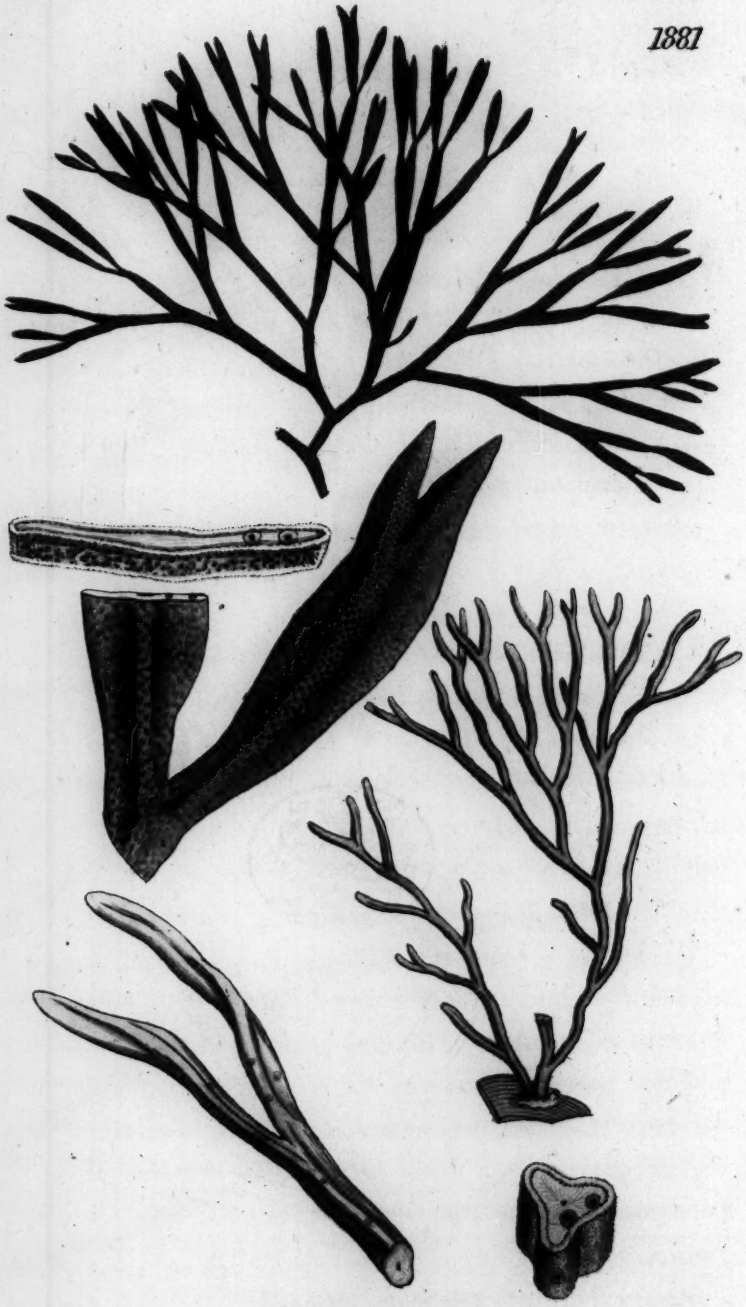
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, cartilaginous, smooth, round, hollow, very much branched, of a smoky brown: its branches tapering, often compressed at their divarications. Warts tumid, powdery, white. Shields sessile, blackish, with an entire margin.

SYN. Lichen jubatus. *Linn. Sp. Pl.* 1622. *Ach. Prod.* 219. *Huds.* 561. *With. v.* 4. 46. *Hull.* 306. *Relh.* 473. *Abbot.* 270. *Lightf.* 891. *Schrad. Journ. v.* 1. 83. *t.* 3. *f.* 4.
Usnea jubata nigricans. *Dill. Musc.* 64. *t.* 12. *f.* 7.
Muscus corallinus saxatilis fœniculaceus. *Raii Syn.* 65.
Parmelia jubata. *Ach. Meth.* 272.
β. Lichen chalybeiformis. *Linn. Sp. Pl.* 1623. *Ach. Prod.* 220. *With. v.* 4. 47. *Hull.* 306. *Lightf.* 892.
Usnea rigida, horsum vorsum extensa. *Dill. Musc.* 66. *t.* 13. *f.* 10.
Muscus caule rigido instar fili chalybei. *Raii Syn.* 65.
Parmelia jubata δ. *Ach. Meth.* 273.

THIS grows either in long pendulous bunches from the branches of old trees in mountainous woods, resembling the mane of a horse, or in straggling tufts on rocks or pales. The colour is a smoky greyish brown, rather shining. Stems and branches slender, round, hollow without any central fibre, much and repeatedly subdivided and divaricated, compressed at the older and larger divarications, taper-pointed. In the long pendulous kind, or original *jubatus*, we have chiefly observed the white powdery warts in plenty, but very rarely any shields. Mr. Turner and Mr. W. J. Hooker brought the variety β in fruit, which is also very uncommon, from the highland mountains. The shields are sessile, almost black, with a border of the same colour when young. The disk grows cracked and rugged with age.





May 1808. Published by Jas. Sowerby London.

ULVA furcellata.

Reddish Forked Laver.

CRYPTOGAMIA Algæ.

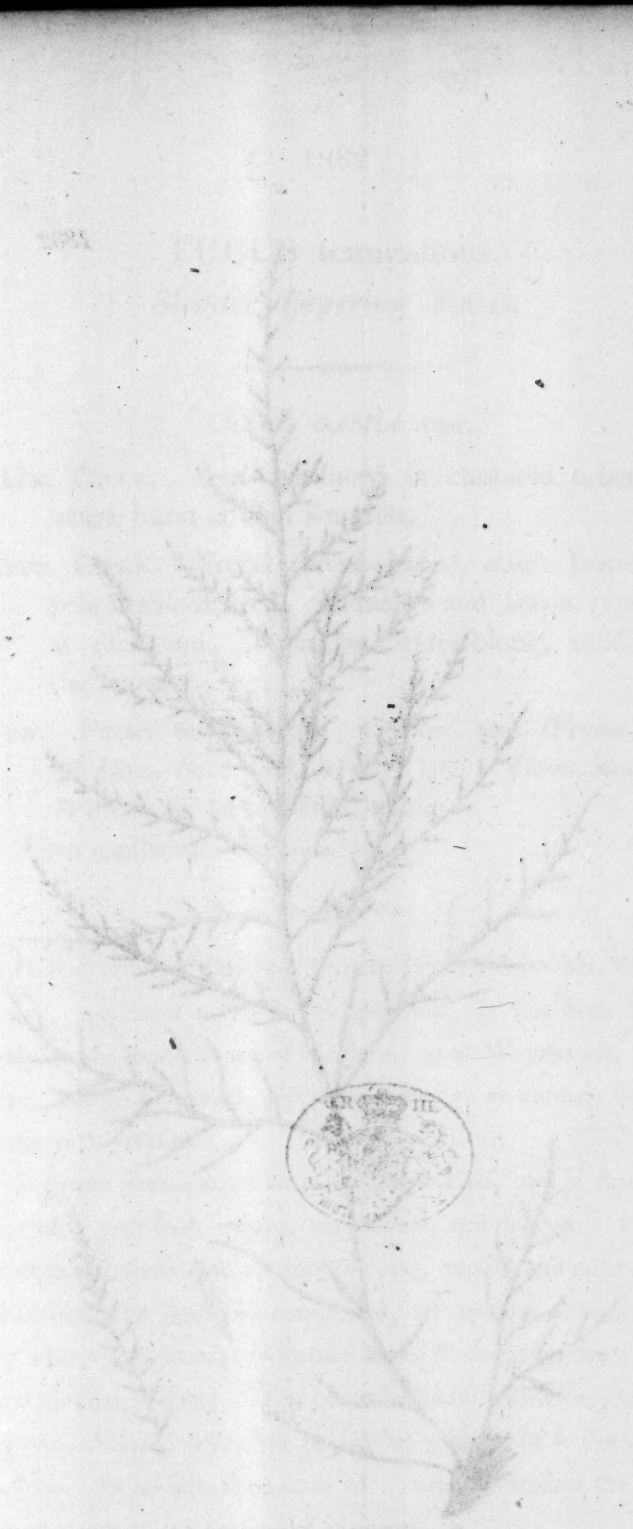
GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

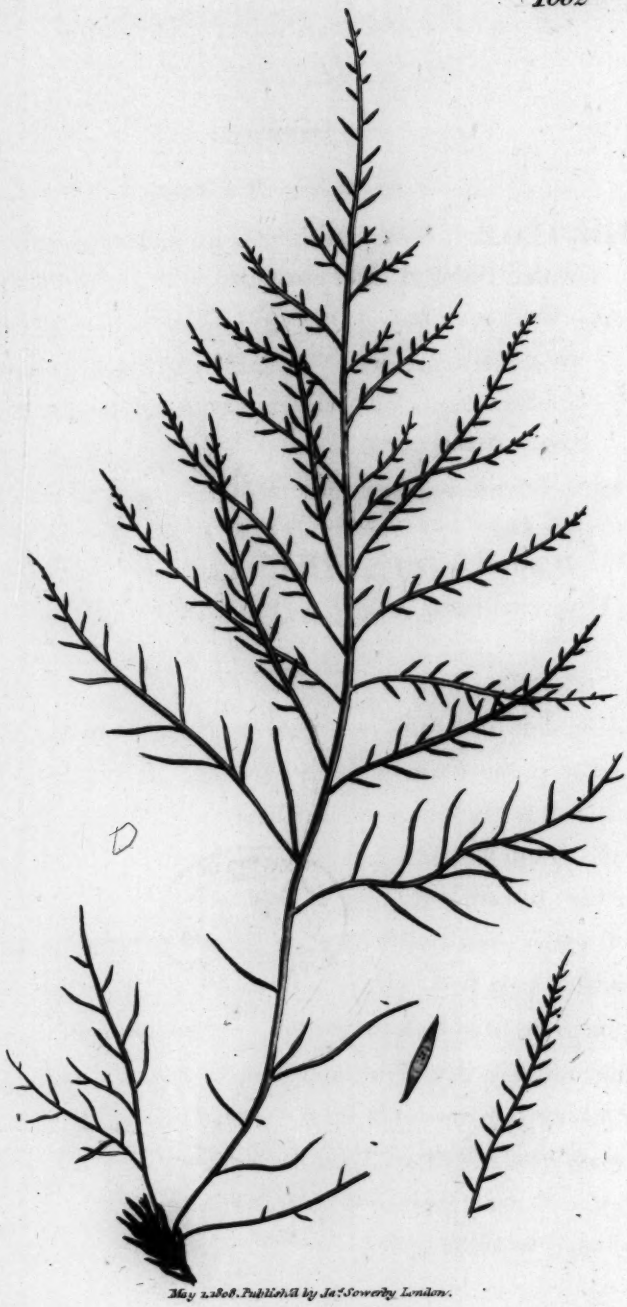
SPEC. CHAR. Frond round, gelatinous, repeatedly forked, reddish; its ultimate segments flattened, lanceolate, cloven.

SYN. Ulva furcellata. *Turner in Schrad. Journ. v.* 3. 301.

MR. TURNER, who first found this *Ulva* on submarine rocks and stones at Sheringham, Norfolk, and communicated a description and figure of it to the Physical Society of Gottingen, which are published in Dr. Schrader's *Journal*, has favoured us with the principal specimen delineated in our plate. We have annexed part of another gathered by Miss Biddulph at Southampton, upon the fragment of a shell.

The root is a small callous disk. Fronds several, from 1 to 3 inches high, tender and gelatinous, with numerous fork-like or alternate divisions, cylindrical and nearly of equal thickness throughout, except that the ultimate segments are angular or flattened, and more or less dilated, sometimes but slightly cloven. The seeds are sparingly scattered without order just under the cuticle, brown, globular, large in comparison with other species. The colour of the whole plant is a pale brownish red, sometimes greenish.





May 1.1808. Published by Ja.t Sowerby London.

FUCUS tenuissimus.

Slender Tapering Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

SPEC. CHAR. Frond thread-shaped, much branched, pale flesh-coloured. Branches and leaves tapering at each end. Tubercles ovate-oblong, sessile on the leaves.

SYN. Fucus tenuissimus. *Gooden. and Woodw. Tr. of Linn. Soc. v. 3. 215. t. 19. Turn. Syn. 35. With. v. 4. 117. Hull. 326.*
Ulva capillaris. *Huds. 571.*

OUR drawing of this rare *Fucus* was made from Mr. Woodward's specimen under his inspection. It has been found only on the south coast of England, as at Weymouth, Portland, and in Cornwall, and is presumed to be annual, bearing fruit in the summer.

It grows parasitically on other larger *Fuci*, and is throughout of a pale flesh-colour, very tender and delicate. Fronds numerous, from 6 to 10 inches long, much and alternately branched, the branches compound, all tapering at both ends, by which this species is known from *F. dasyphyllus*, *t.* 847, and *obtusus*, *t.* 1201. The tubercles grow sessile on the sides of the ultimate branches or leaves, and are of a deeper red colour. In an advanced state Mr. Turner describes the seeds as adhering to the surface of the leaf.

May 1.1808. Published by Jas Sowerby London.

CONFERVA tæniæformis.

Tape-worm Conferva.

CRYPTOGAMIA Algæ.

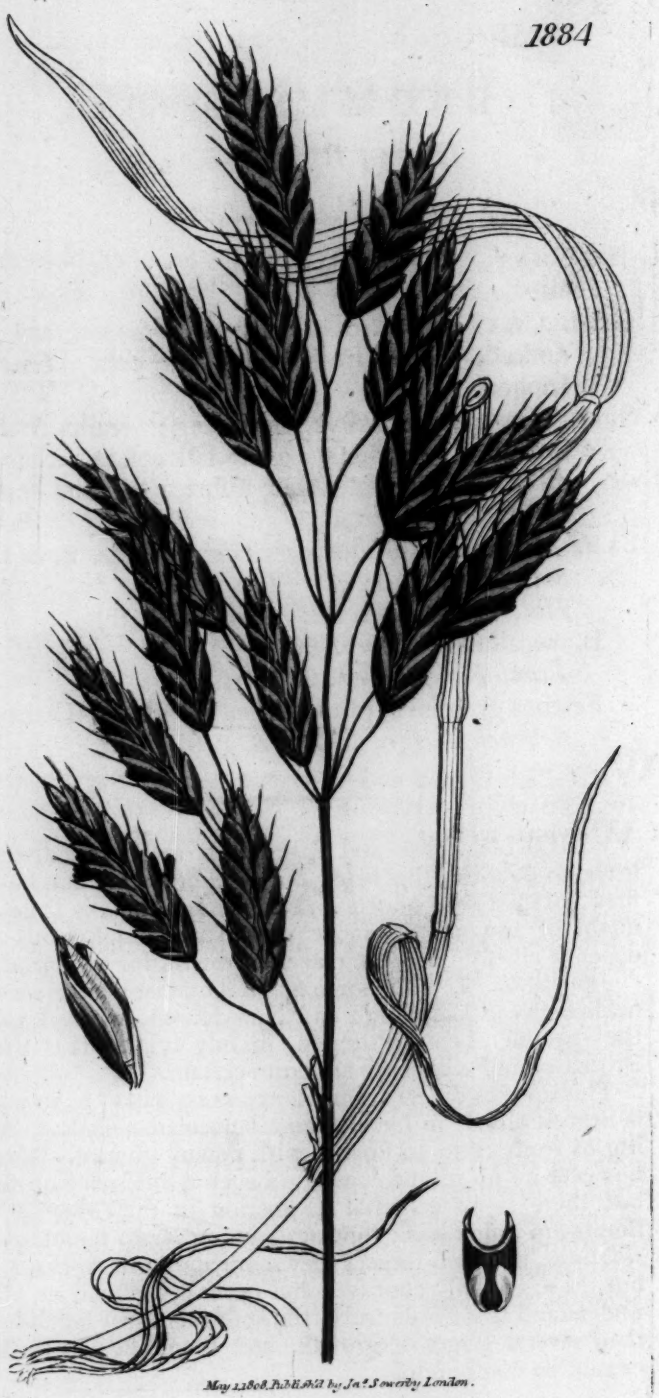
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Pale green. Filaments capillary, simple, compressed. Joints quadrangular, thrice as broad as long, obscurely variegated, not striated; at length separating at one edge and divaricated.

FOUND by Mr. W. Borrer in pools of sea water left among the rocks by the tide at Beachy-head, Sussex, in February 1808. It forms parasitical tufts, scarcely a line high, on *Conferva fucoides*.

This is one of that singular tribe of minute *Confervæ*, of which we have figured two, *t.* 1761 and 1762, remarkable for being composed of compressed quadrangular joints, at length separating from each other transversely, only adhering by one or other of their corners. This species differs from all the rest, except *pectinalis* of Dillwyn, *t.* 24, in the extreme shortness of its joints in comparison with their breadth; but the *pectinalis* is a freshwater one, tapering to a point, and not separating so frequently as ours, neither are their green internal contents central as in the plant before us. The shortness of the joints in our plant much resembles those of some foreign species of *Tænia* or Tape-worm.

On burning this production we perceive so much of "an ancient fish-like smell," and so great an earthy residuum, that, but for the analogy of the plants above mentioned, we should think we had met with a coralline. This uncertainty prompts us the more to make the discovery known, that it may be further investigated, even at the risk of being charged with not knowing a coralline from a *Conferva*.



May 1 1808. Published by Jas Sowerby London.

BROMUS multiflorus.

Downy Rye Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, 2-ranked. *Awn* from below the top. *Inner husk* fringed.

SPEC. CHAR. Panicle spreading; stalks but little branched. Spikelets ovato-lanceolate, compressed, of about fifteen, rather imbricated, and somewhat cylindrical, florets.

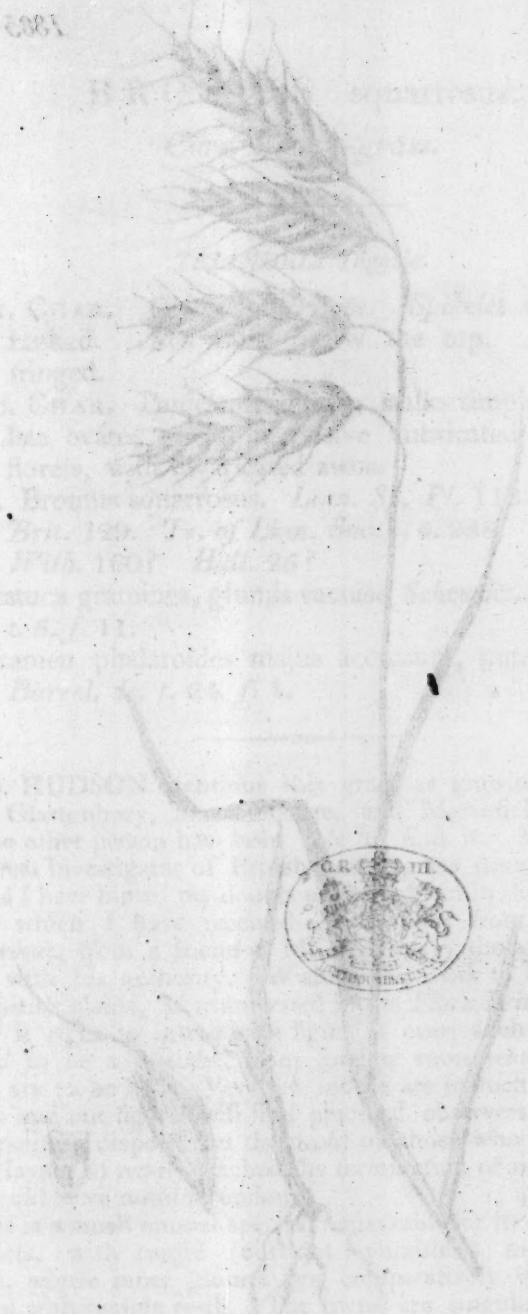
SYN. Bromus multiflorus. *Weigel. Obs.* 2. *t.* 1. *f.* 1. *Sm. Fl. Brit.* 126. *Tr. of Linn. Soc. v.* 4. 283. *Hull.* 25. *Relh.* 39. *Knapp. t.* 80.

B. secalinus. *Leers.* 36. *t.* 11. *f.* 2. *Lightf.* 1086. *Linn. Fl. Suec. ed.* 2. 83 β.

Festuca graminea, glumis hirsutis. *Bauh. Theatr.* 143. *Scheuchz. Agr.* 250. *t.* 5. *f.* 9.

WEIGEL's figure and description in his rare dissertation leave no doubt of this being his *B. multiflorus*, and he is the first botanist who understood it, though there is little or no doubt of any of the above synonyms. Lightfoot's indeed depends chiefly upon the place of growth, for his account is a compilation. I wish some good botanist would search the fields between Edinburgh and New Haven, where I gathered the specimen here delineated, in July 1782. It is the only British one of which we are quite certain.

This species differs from *B. secalinus*, *t.* 1171, to which it is nearest allied, in having more lanceolate spikelets, consisting of from 12 to 16 florets, with downy glumes. We should however by no means depend on such a difference of number, but there is an essential distinction in their shape. These florets are much less cylindrical, and never so remote as in the *secalinus*, in which respect they more approach *mollis*, *t.* 1078, but those are only concave, and never cylindrical at all. To understand this genus truly, the spikelets must be observed in their several stages of growth, and then I believe the species cannot be confounded.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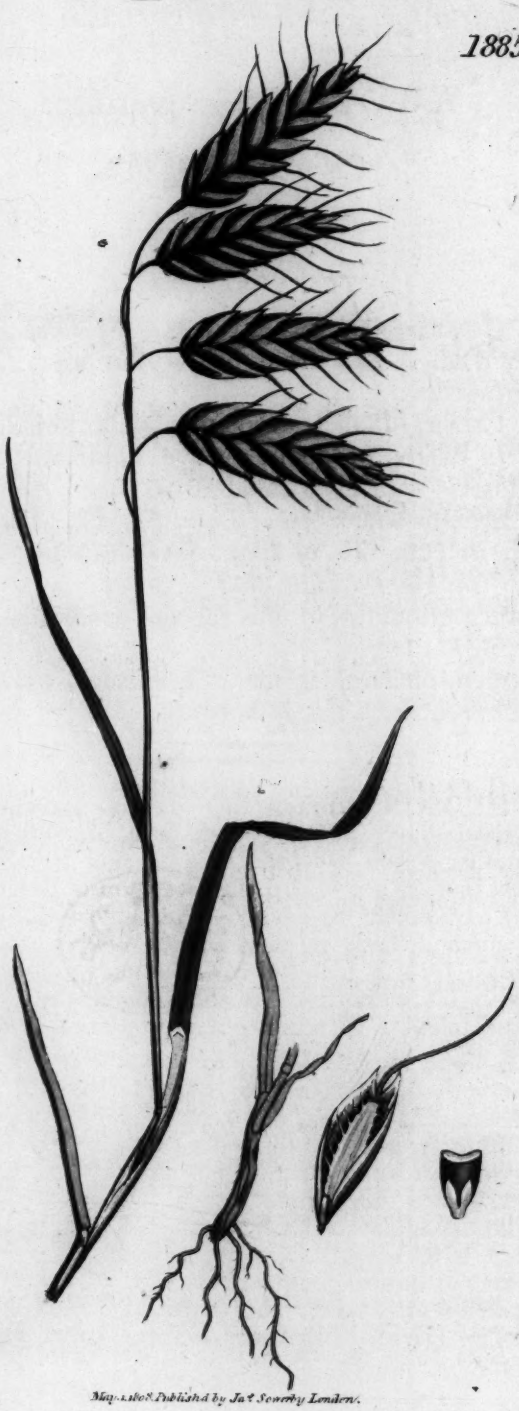


May 1.1808. Published by Jas. Sowerby, London.

BROMUS squarrosus.

Corn Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, 2-ranked. *Awn* from below the top. *Inner husk* fringed.

SPEC. CHAR. Panicle drooping; stalks simple. Spikelets ovate, of about twelve imbricated depressed florets, with divaricated awns.

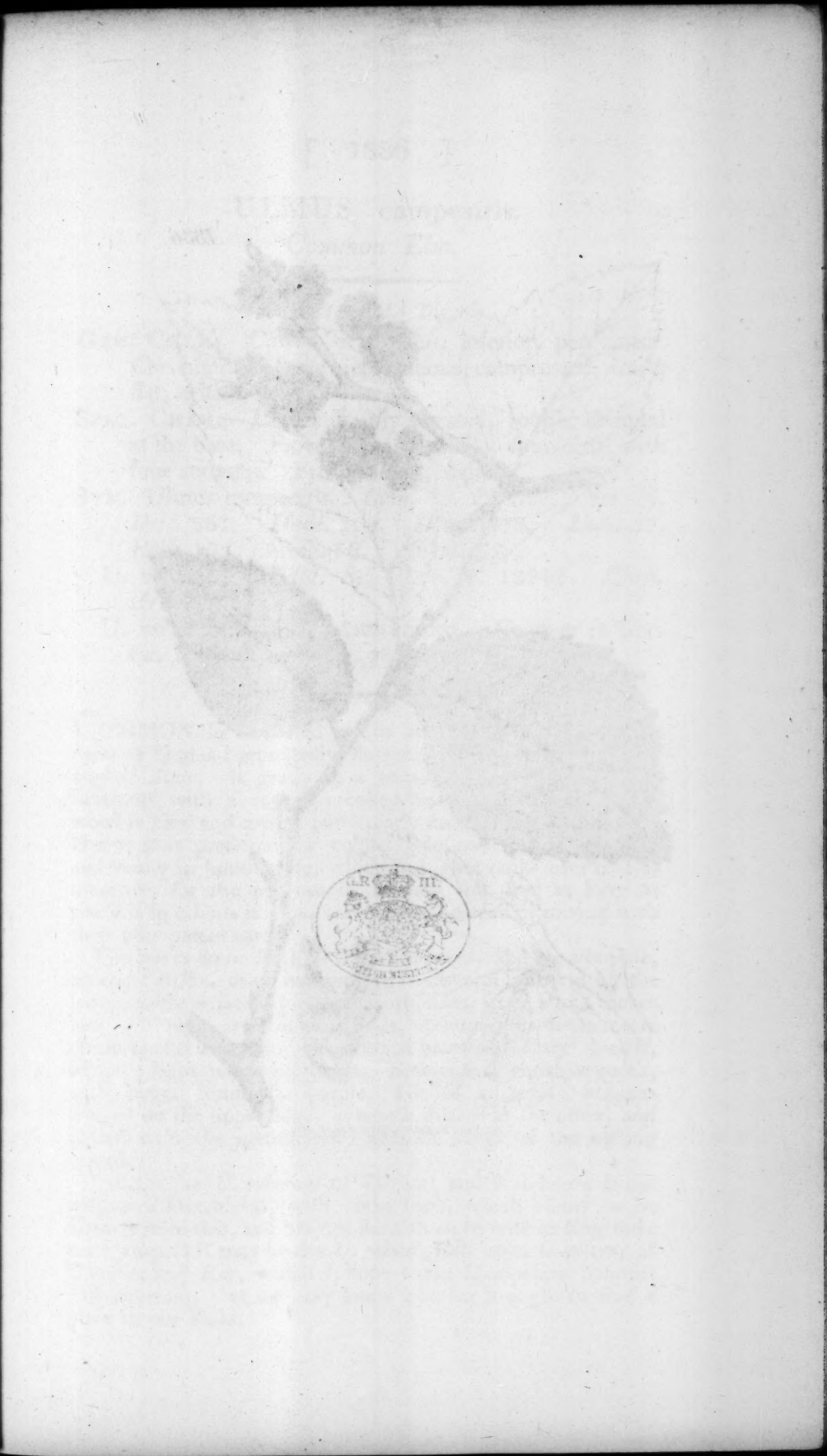
SYN. Bromus squarrosus. *Linn. Sp. Pl.* 112. *Sm. Fl. Brit.* 129. *Tr. of Linn. Soc. v.* 4. 288. *Huds.* 49? *With.* 160? *Hull.* 25?

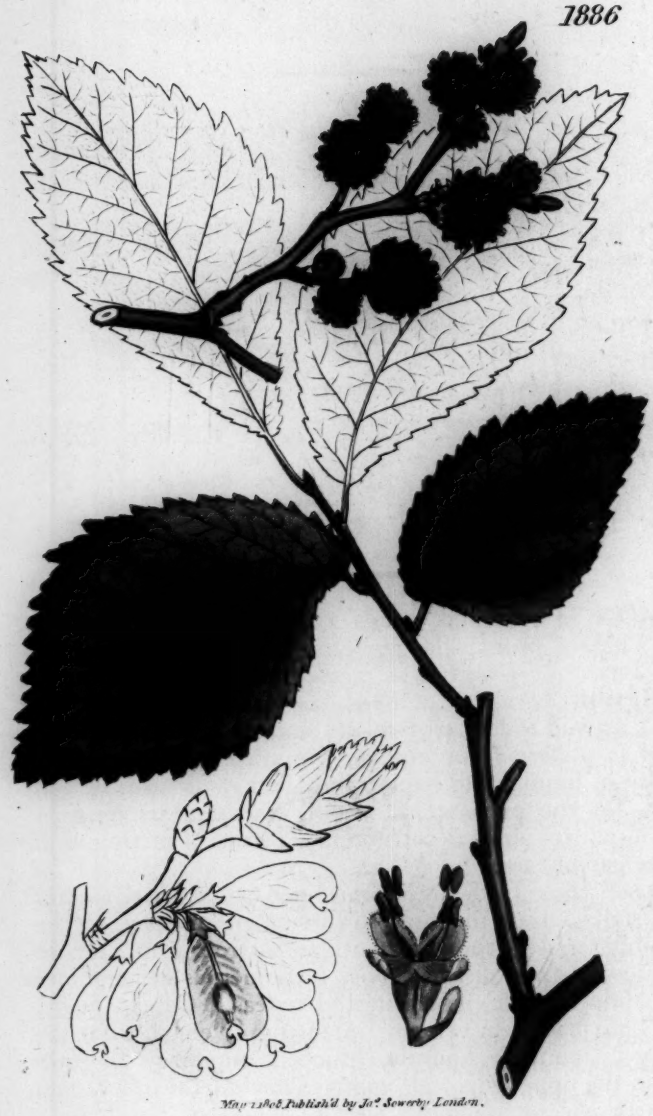
Festuca graminea, glumis vacuis. *Scheuchz. Agr.* 251. *t.* 5. *f.* 11.

Gramen phalaroides majus acerosum, nutante spicâ. *Barrel. Ic. t.* 24. *f.* 1.

MR. HUDSON mentions this grass as growing in fields near Glastonbury, Somersetshire, and Marshfield, Sussex, but no other person has been able to find it. Mr. Knapp, the great investigator of British grasses, has never met with it, and I have hinted my doubts on the subject in the *Fl. Brit.*, since which I have received *B. secalinus* from Sussex as *squarrosus*, from a friend of Mr. Hudson's, though not indeed with his authority. Wishing this work to contain all the British plants, as enumerated in the *Flora Britannica*, we think it right to introduce a figure of every such plant, not *proved* to be a mistake, from foreign specimens when no other are to be had. Very few indeed are in such a predicament, and our figures will lead practical observers to decide each point in dispute, for the profit of those who come after us. Having so nearly reached the termination of our labours, we would leave nothing undone.

This is a small annual species, remarkable for its large ovate spikelets, with turgid (but not cylindrical) many-ribbed florets, whose inner glumes are comparatively very small, fringed with remote teeth. The awns are singularly divaricated. The hairs on the sheaths of the leaves point downwards.





May 1.1808. Publish'd by Jas. Sowerby, London.

ULMUS campestris.

Common Elm.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* 4 or 5-cleft, inferior, permanent. *Cor.* none. *Capsule* membranous, compressed, nearly flat, with 1 *seed.*

SPEC. CHAR. Leaves doubly serrated, rough, unequal at the base. Flowers nearly sessile, four-cleft, with four stamens. Fruit oblong, naked.

SYN. Ulmus campestris. *Linn. Sp. Pl.* 327. *Sm. Fl. Brit.* 281. *Huds.* 109. *With.* 278. *Hull.* 57. *Relh.* 103. *Sibth.* 86. *Abbot.* 55.

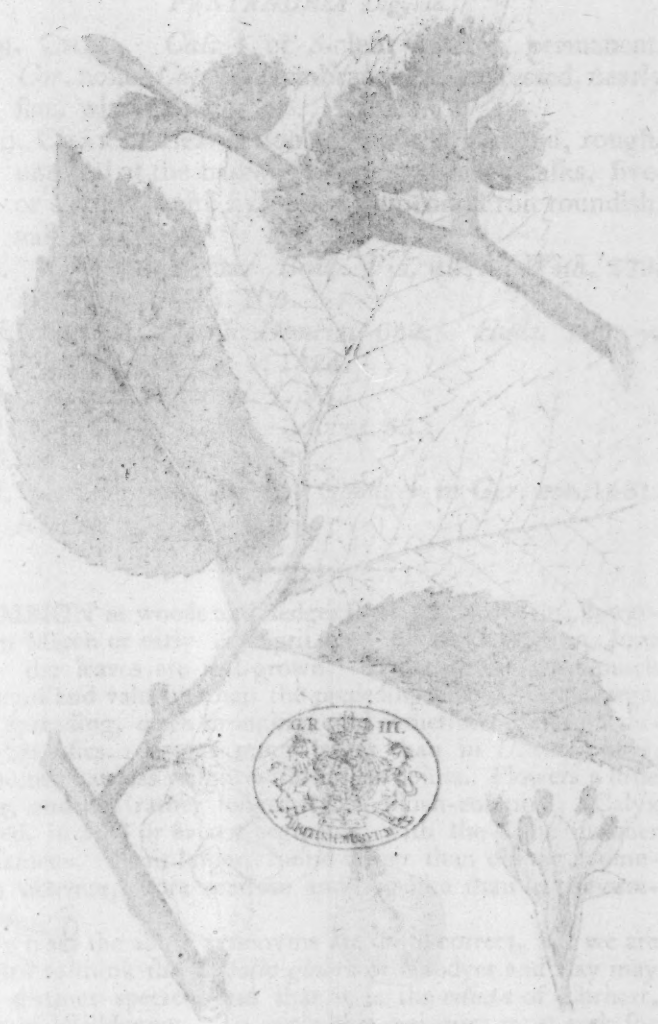
U. suberosa. *Willd. Sp. Pl. v.* 1. 1324? *Ehrh. Arb.* 142?

U. vulgatissima, folio lato scabro. *Goodyer in Ger. em.* 1480. *Raii Syn.* 468.

COMMON in scattered woods and hedges in the southern parts of England principally, flowering in April, and ripening seed in June. It grows to a considerable height before it blossoms, with a rugged crooked trunk and branches. The wood is hard and tough, particularly durable in wet situations. Hence it is preferred for coffins, administering to that folly and vanity in humble life, which in higher ranks uses lead or masonry, for the purpose of keeping the dead as long as possible in odious noxious corruption, instead of mixing with their pure parent earth.

The leaves come forth as the fruit ripens, and are alternate, on short stalks, ovate inclining to rhomboid, unequal at the base, doubly serrated, rough on both sides, from 1 to 3 inches long. Flowers from distinct buds, in numerous dense round clusters, almost sessile, with fringed bracteas. Calyx 4-cleft, fringed, light red or brownish. Stamens 4, equal, smooth, with large, roundish, purple, 2-lobed anthers. Stigmas fringed on the upper edge, at length dilated at the other, and united with the membranous smooth wings of the oblong capsule.

Perhaps the *U. suberosa* of Ehrhart and Willdenow is the cultivated Dutch elm, with corky bark, which seems to be distinct from this, and has not been thought wild in England: yet I suspect it may be the *U. minor, folio angusto scabro*, of Goodyer and Ray, which I hope some Hampshire botanist will ascertain, that we may know whether it ought to find a place in our Flora.


G.R. III.

May 2.1808. Publish'd by Jas Sowerby London.

ULMUS montana.

Broad-leaved Elm. Wych Hasel.

PENTANDRIA Digynia.

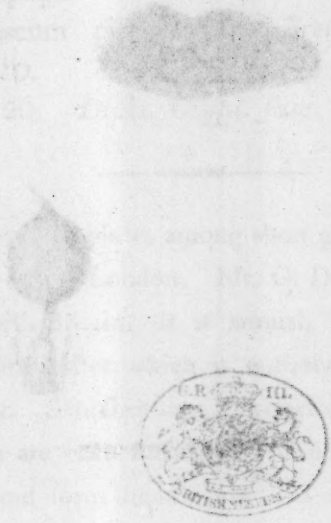
GEN. CHAR. *Cal.* 4 or 5-cleft, inferior, permanent. *Cor.* none. *Capsule* membranous, compressed, nearly flat, with 1 *seed.*

SPEC. CHAR. Leaves doubly serrated, pointed, rough, unequal at the base. Flowers on short stalks, five- or six-cleft, with five or six stamens. Fruit roundish, naked.

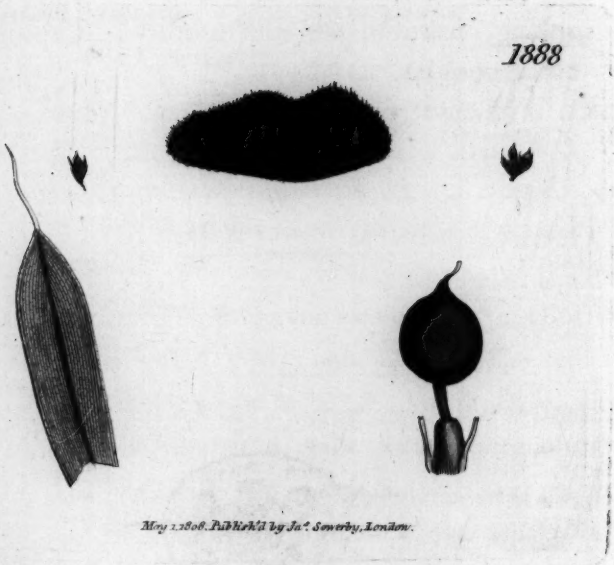
SYN. Ulmus montana. *Bauh. Pin.* 427. *With.* 279. *Hull.* 57. *Relh.* 103.
U. campestris. *Fl. Dan. t.* 632. *Huds.* 109, γ. *Willd. Sp. Pl. v.* 1. 1324.
U. glabra. *Huds. ed.* 1. 95.
U. effusa. *Sibth.* 87. *Abbot.* 55.
U. nuda. *Ehrh. Arb.* 62.
U. folio latissimo scabro. *Goodyer in Ger. em.* 1481. *Raii Syn.* 469.

COMMON in woods and hedges throughout Britain, flowering in March or early in April, and ripening seed in June when the leaves are full-grown. The wood of this is much less hard and valuable than the preceding. The tree is large, with spreading, often drooping, and sometimes quite pendulous branches. Leaves much larger than in *U. campestris*, and somewhat less rough, with longer points. Flowers a little larger, and on rather longer stalks, blush-coloured. Calyx fringed, in 5, 6 or even 7 segments, with the same number of stamens. Fruit larger, round rather than oblong, sometimes obovate, more scariose and hop-like than in the *campestris*.

We trust the above synonyms are quite correct, but we are inclined to think the *U. folio glabro* of Goodyer and Ray may be a distinct species, and that it is the *ciliata* of Ehrhart, *effusa* of Willdenow. To settle this point we must seek for indubitably wild British specimens. In the mean while it is of use to ascertain two species, as the genus has long been a reproach to botanists. If Lightfoot be correct, this *U. folio glabro* is common in Scotland. Goodyer says it grows in Essex between Rumford and Stubbers.



G.R. III.
BRITISH MUSEUM


1888
May 1.1808. Published by Jas Sowerby, London.

PHASCUM piliferum.

Bearded Earth-moss.

CRYPTOGAMIA Musci.

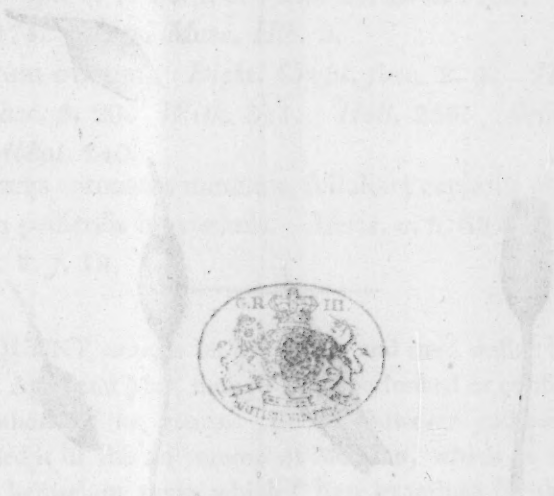
GEN. CHAR. *Capsule* ovate, without any separate lid, deciduous. *Veil* minute, deciduous.

SPEC. CHAR. Stem simple or branched. Leaves ovate-oblong, erect, tipped with a bristle. Capsule globose, upright.

SYN. Phascum piliferum. *Schreb. Phasc.* 8. *t.* 1. *f.* 6—10. *Sm. Fl. Brit.* 1151. *Hedw. Sp. Musc.* 20. *Dicks. Crypt. fasc.* 2. 1. *Hull.* 252.

FOUND in barren places among short grass. Mr. Dickson first observed it near London. Mr. G. Don sent it from near Forfar in North Britain. It is annual, bearing capsules in the early spring, after which it entirely disappears till the following year. Schreber says it prefers a clay soil.

The plants are each furnished with a short, simple or divided stem, and form broad dense tufts of a lightish green or reddish colour, rendered somewhat hoary by the hair-like points of their foliage. Each leaf is ovate, or ovate-oblong, entire, keeled, upright, tipped with a slender bristle. When dry the leaves fold closer together, with a slight twist, but are not curled. Capsule solitary, central, on a short stalk bulbous at the base, upright, globular, crowned with the veil in many of our specimens which are not quite arrived at maturity.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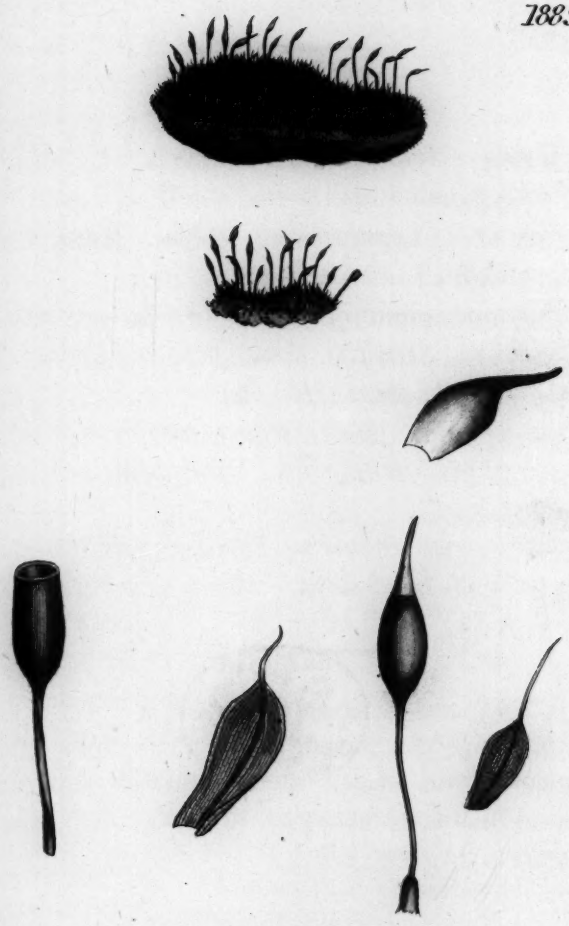


May 1.1808. Publish'd Jan.y Sowerby, London.

GYMNOSTOMUM ovatum.

Hairy-leaved Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

SPEC. CHAR. Leaves ovate, obtuse, entire, concave, tipped with a bristle. Capsule ovate.

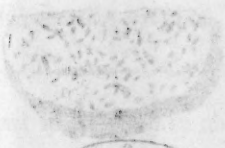
SYN. Gymnostomum ovatum. *Hedw. Sp. Musc.* 31. *Crypt. v.* 1. 16. *t.* 6. *Sm. Fl. Brit.* 1160. *Sibth.* 274. *Turn. Musc. Hib.* 9.

Bryum ovatum. *Dicks. Crypt. fasc.* 2. 4. *H. Sicc. fasc.* 3. 20. *With.* 811. *Hull.* 256. *Relh.* 424. *Abbot.* 240.

Muscus coronatus minimus, foliolis et capitulis oblongis in pediculis brevissimis. *Moris. v.* 3. 631. *sect.* 15. *t.* 7. *f.* 18.

FREQUENT enough on dry banks and mud walls, bearing fruit in April and May, though long overlooked or confounded with others of its genus. Bobart however gathered and published it in the 3d volume of Morison, which he edited; but his herbarium alone, which I have examined for the purpose, could determine what he meant.

The plant is annual, growing in patches. Stem very short, always simple. Leaves light green, single-ribbed, ovate, or obovate, obtuse, concave, entire, each tipped with a conspicuous white bristle. Fruitstalk solitary, with a reddish pellucid bulb at its base, upright, twisted when dry. Capsule ovate, smooth, reddish brown, a little lengthened at the base, abrupt, but not dilated, at the summit. Lid flattish, with a nearly straight awlshaped beak, almost equal to its own length. Veil of a rusty brown, splitting up at one side.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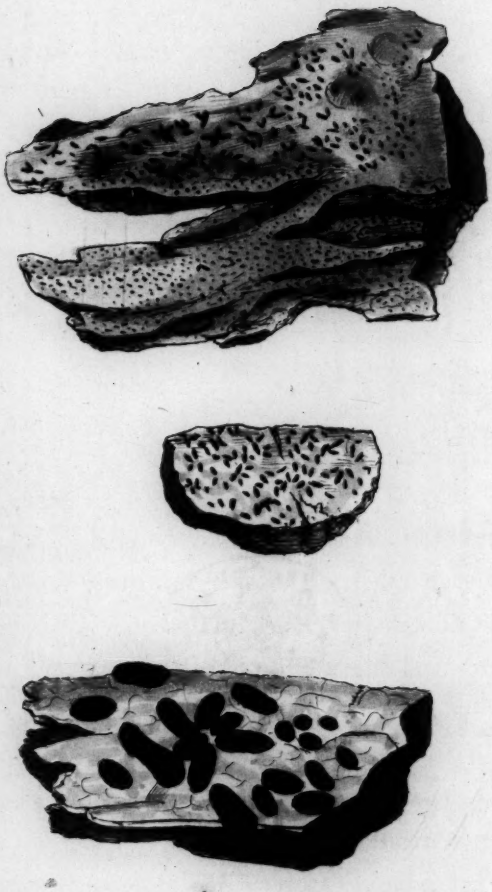


June 1.1808. Published by Jas Sowerby London.

OPEGRAPHA notha.

Spurious Opegrapha.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust thin, powdery, white, dispersed. Clefts prominent, mostly simple, rounded, wavy, dilated, of various dimensions.

SYN. Opegrapha notha. *Ach. Meth.* 17.

O. lichenoides. *Persoon in Ust. Ann. fasc.* 7. 30. *t.* 2. *f.* 4., *a*, *b*.

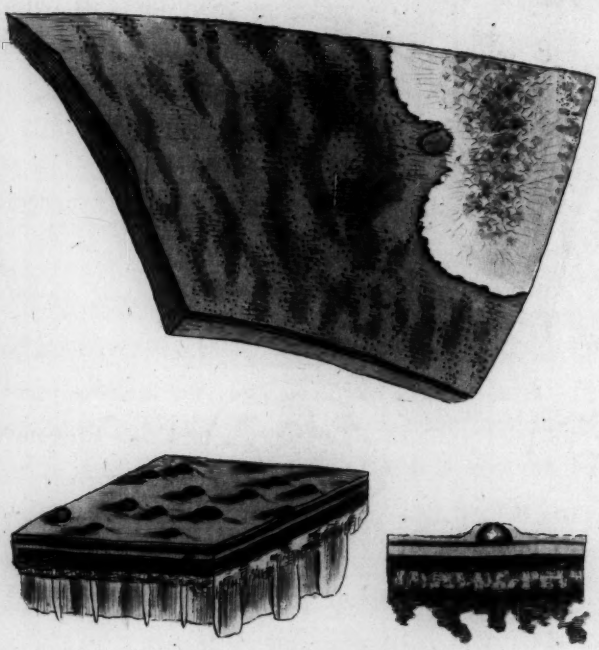
Lichen nothus. *Ach. Prod.* 19.

Graphis curvula. *Ehrh. Crypt.* 253.

PERSOON and Ehrhart seem to have observed this species independent of each other. The specific name given by the former, and that of Acharius, allude to the same characteristic mark, the breadth and dilatation of the fructification, which in an advanced state almost resembles the shields of a *Lichen*, being so broad in its middle part as to be almost ovate. Sometimes the young clefts, being very short, have a similar figure. Professor Acharius mentions several varieties, which we have from himself, but which appear rather different stages of growth. The crust is thin, leprous or powdery, generally very white, sometimes more dispersed, and by age becoming yellowish or dusky.

Mr. Turner sent our specimens from old trunks of trees near Yarmouth.

GR III



June 1.1808. Published by Jas. Sowerby, London.

LICHEN stigmatellus.

Little Dot Lichen.

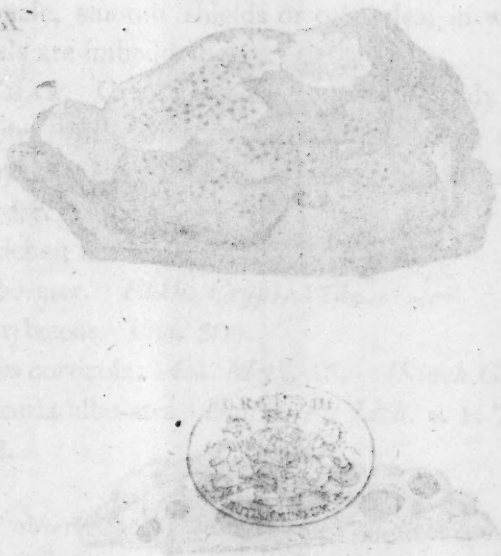
CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust greyish, uninterrupted, thin, smooth and polished. Tubercles minute, convex, black, protruding through and elevating the crust.

SYN. Lichen stigmatellus. *Ach. Prod.* 15.
Verrucaria stigmatella. *Ach. Meth.* 117.
V. cinerea. *Persoon in Ust. Ann. fasc.* 7. 28. *t.* 3. *f.* 6. *A, a.*

FOUND by Charles Lyell, Esq., in the New Forest, growing on the smooth bark of trees, which it overruns in broadish uninterrupted patches. The crust is of a pale brownish grey, smooth, polished, by no means mealy, and scarcely cracked. It is about the thickness of silk paper, and of the same hue within as without. Innumerable little black tubercles, like dots, are sprinkled over the crust, in which they are imbedded, and which they elevate around their base as they swell in ripening. Each tubercle is convex, almost conical, hollow and lined with pale seeds within, which hollowness constitutes the character of a *Verrucaria*, a genus we have hitherto not ventured to adopt.——Our specimens agree with those sent by Persoon, Schrader and Acharius.



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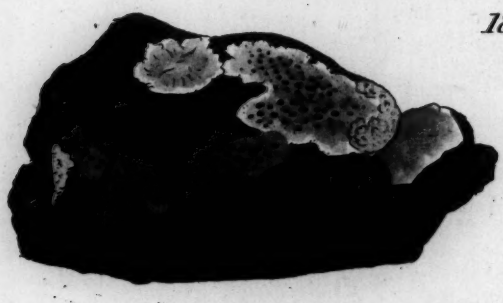


June 1st 1808. Published by Jas. Sowerby, London.

LICHEN corticola.

Black and white Bark Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

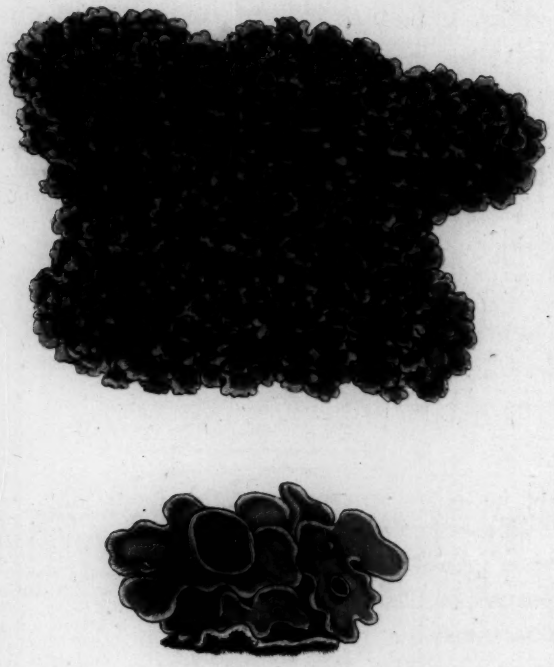
SPEC. CHAR. Crust spreading, cracked, mealy and very white. Shields somewhat sunk, small, crowded, grey; at length black, convex, with a very black border.

SYN. Lichen corticola. *Ach. Prod.* 57.
L. albo-ater. *Ehrh. Crypt.* 176.
L. amylaceus. *ibid.* 303.
Lecidea corticola. *Ach. Meth.* 53. *Winch Guide*, 35.
Verrucaria albo-atra. *Hoffm. Pl. Lich. v.* 1. 76. *t.* 15. *f.* 2.

I FIRST observed this species on some old trees in Mr. Kett's grounds at Seething, Norfolk. Mr. Sowerby has received specimens from Mr. James Turner, Mr. W. Borrer and the late Mr. Brunton.

It always grows, as the name implies, upon bark, and that of old rugged oaks more especially. The chief difficulty lies in distinguishing it from *L. epipolius*, *t.* 1137, which grows on old walls, and whose crust is more tartareous and grey. The crust of the present plant is white, thin and mealy, sometimes indeed rugged or tumid, but not so tartareous. The shields are partly sunk in the crust, flattish when young, and clothed with a blue mealiness, except their border which is always blackish. In time the disk grows convex, and both that and the border are intensely black, by which last character the species is certainly known. We have compared authentic specimens, of this and the *epipolius*, with numerous ones of British growth.

G.R.
III.



June 1. 1808. Published by Jas. Sowerby, London.

LICHEN crassus.
Thick Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

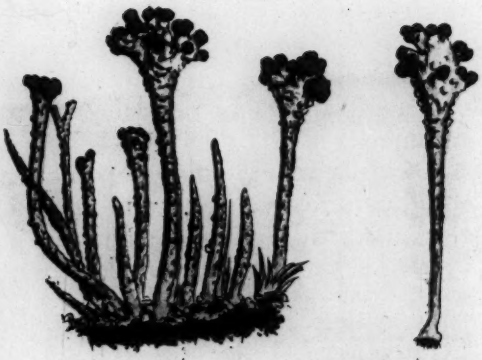
SPEC. CHAR. Crust imbricated, cartilaginous, pale green; its lobes horizontal, rounded, divided, notched and waved; brownish beneath. Shields flattish, brownish-orange, with a pale border.

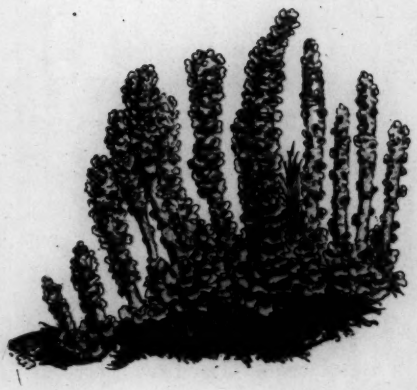
SYN. Lichen crassus. *Huds.* 530. *Ach. Prod.* 97. *Hull.* 294.
L. cartilagineus. *Lightf.* 815. *With. v.* 4. 29. *Dicks. H. Sicc. fasc.* 6. 24.
L. laqueatus. *Wulf. in Jacq. Coll. v.* 3. 109. *t.* 5. *f.* 2.
Lichenoides cartilagineum, scutellis fulvis planis. *Dill. Musc.* 179. *t.* 24. *f.* 74.
Parmelia crassa. *Ach. Meth.* 183.

FOUND on limestone rocks in the more hilly parts of Britain. We gathered it in great perfection on St. Vincent's rocks below Bristol Hot-wells. It forms broad cushion-like tufts or patches on the earth that covers the rocks. The frond or crust is somewhat leafy, imbricated, brittle and friable, extremely white within; its upper surface smooth, of a light or yellowish green, turning brown with age; the under side brown, or black as if inky, rough. The lobes spread horizontally, rather in a close entangled manner, and are rounded, bluntly lobed and notched, their edge palish. Shields sessile, nearly flat, of a dull rufous orange, with a pale obtuse border. They turn black in decay.

Wulfen erroneously quotes *L. fragilis* of Scopoli, which is *L. Smithii* of Acharius, *Micheli, t.* 51. *f.* 1, for this which is *f.* 2. We must exculpate Lightfoot from having confounded this with *L. cartilagineus* of Swartz and Acharius, a plant we believe not found in Britain, and which he certainly never saw.

G.R. III.
BRITISH MUSEUM





June 1.1808. Published by Ja.s Sowerby, London.

LICHEN bellidiflorus.

Daisy-flowered Cup Lichen.

CRYPTOGAMIA Algæ.

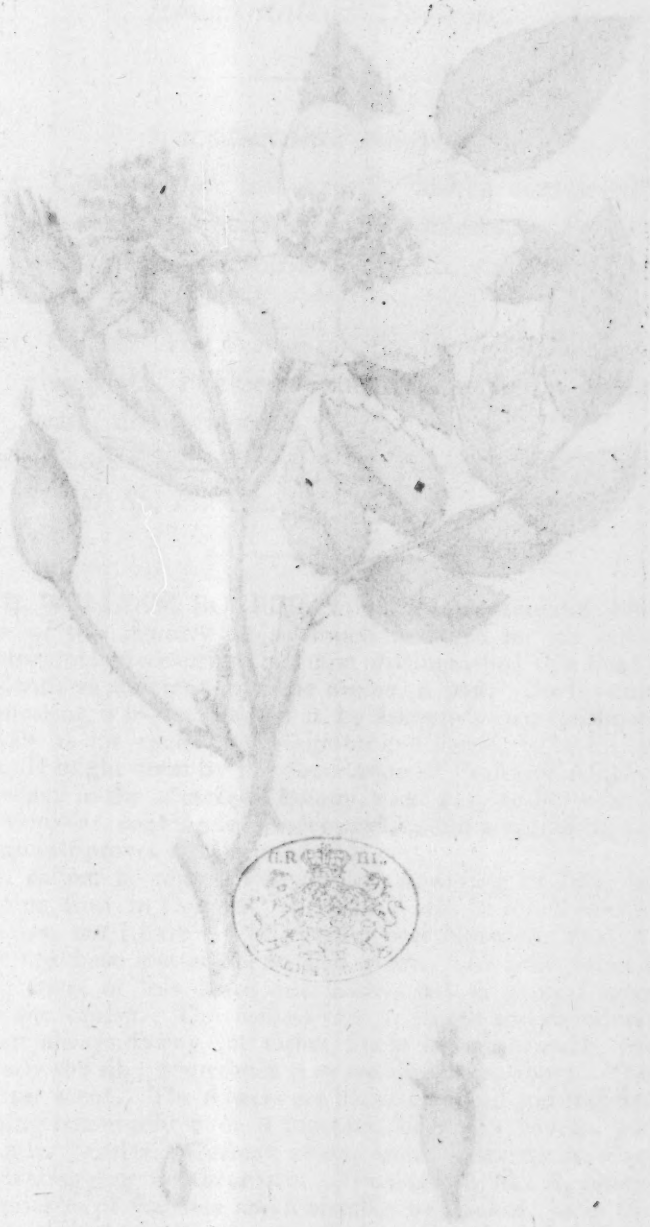
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cartilaginous, pale green. Stems cylindrical, rough and leafy. Cups clubshaped, closed. Tubercles marginal, globose, minute, crowded, scarlet. Leaves imbricated, angular, crenate, minute.

SYN. Lichen bellidiflorus. *Ach. Prod.* 194.
Bæomyces bellidiflorus. *Ach. Meth.* 335.

THIS most elegant species was discovered last summer on the high mountain of Ben Nevis in Scotland, by Mr. Turner and Mr. W. J. Hooker. We had long ago received the same from the coast of Labradore, and from Professor Acharius, the only writer who has described it.

The crust is composed of numerous, small, lax, angular leaves, crenate and acutely lobed, of a light bright green, not grey or glaucous. Stems numerous, upright, various in height, cylindrical, unbranched except at the summit, clothed with small scaly foliage; the base slender, and more or less orange or tawny. Cups swelling from a taper base upwards, shallow or closed, their borders and segments crowded with innumerable, small, globular tubercles, of a rich deep scarlet, often not unaptly resembling the flower of a double red daisy. It differs from the, not uncommon, *L. cocciferus*, in its greater size and roughness, green not grey hue, smaller, more clustered, and rather deeper-coloured tubercles, besides (according to Acharius) affording different and far less valuable colours in dyeing.—This is an instance, among many others, of the greater beauty and vigour of this tribe of plants, whether species or individuals, in proportion to the cold and severity of the climate to which they are exposed.



June 1.1808. Published by Jas. Sowerby London.

ROSA collina.

Rough-stalked Dog-rose.

ICOSANDRIA Polygynia.

GEN. CHAR. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Seeds* numerous, bristly, fixed to the inside of the calyx.

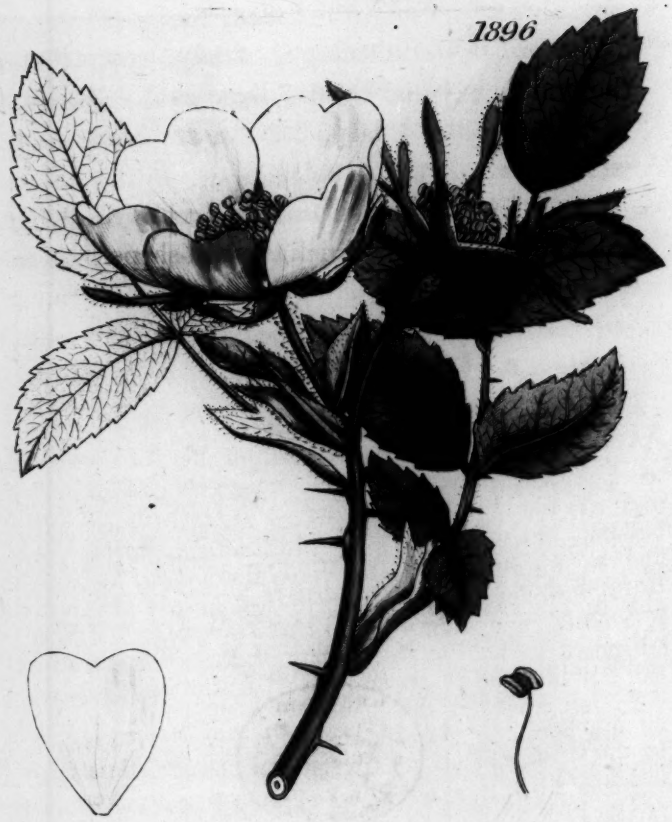
SPEC. CHAR. Fruit ovate, smooth. Flower-stalks bristly, clustered. Prickles of the stem hooked. Leaflets ovate, downy beneath.

SYN. Rosa collina. *Jacq. Austr. v.* 2. 58. *t.* 197. *Willd. Sp. Pl. v.* 2. 1078.

MR. WILLIAM BORRER, to whom the scientific botanists of this country are so much indebted for his various cryptogamic discoveries, has first distinguished this Rose in England, as different from the *canina*, *t.* 992. On his communicating it to us, we find it by Jacquin's own specimens, as well as his excellent description and figure, to be his *collina*. It might seem by the dissertation of Professor Afzelius, translated in the *Annals of Botany*, *v.* 2. 211, to be what he mentions as confounded under *canina*, but a specimen sent by himself proves certainly different.

R. collina is common in Sussex, flowering in July, and ripening fruit in October. Perhaps it will be found in other counties, but I have not observed it near Norwich, though I have not been inattentive to this genus. Its habit varies in being more or less dense and bushy, but in general agrees with the *canina*. The leaflets vary in length and roundness, but are always downy (or rather finely hairy) beneath, particularly the rib; sometimes they are slightly so above. They have no scent. The flowers are blush-coloured and fragrant, growing commonly 2 or 3 together, on stalks covered with glandular bristles. Germen ovate, smooth, except now and then a straggling bristle or two. Fruit exactly like *R. canina*. The prickles of the stem and footstalks are hooked, as in that species, but the leaves are remarked by Jacquin to be thicker and less shining.

G.R. III.



June 1.1808. Published by Jas Sowerby Lond.

ROSA scabriuscula.

Roughish-leaved Dog-rose.

ICOSANDRIA Polygynia.

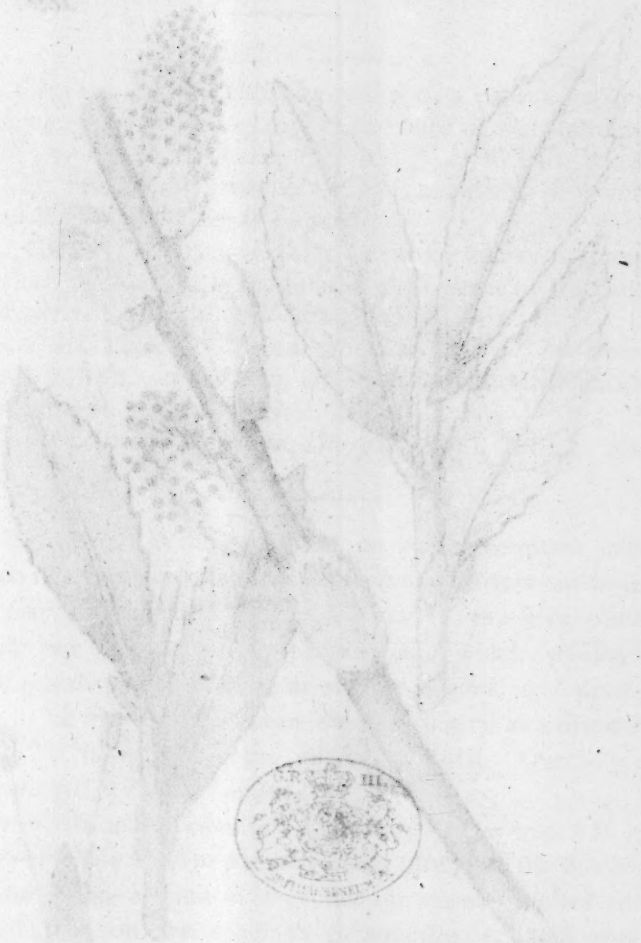
GEN. CHAR. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Seeds* numerous, bristly, fixed to the inside of the calyx.

SPEC. CHAR. Fruit roundish-ovate, bristly as well as the flower-stalks. Prickles awl-shaped, nearly straight. Leaflets elliptical, roughish with minute hairs.

SYN. Rosa n. 459. *Winch Guide*, *v.* 1. 48. *v.* 2. *præf.* 5.

WE can find no certain mention of this Rose except in the work of Mr. Winch, to whom we are obliged for specimens, and who found it in several hedges in Durham and Northumberland, in June 1804. In the very same month Mr. Crowe and myself noticed it flowering in hedges to the north of Bury, Suffolk, and judged it to be a new species. I was at first disposed to believe it a variety of *R. tomentosa*, *t.* 990, nor can any botanist be certain that it is not so, because we really do not know in this genus what constitutes a variety and what a species. As the acute botanists of Sweden are attending to the subject, we trust it will become less obscure. In the mean while it is our duty as practical observers to collect facts.

The prickles of the stem in this *Rosa* are more straight and slender than in the *tomentosa*. The leaves are certainly very different to the touch, nor have they the same scent. There is a harshness about them, even when most hairy or downy, very unlike the *tomentosa*, neither have they any greyish hoary hue. Their mid-rib is hairy. The flowers according to Mr. Winch are always white, tinged or blotched with red, and the fruit large "in shape rather resembling that of *R. villosa* than of *tomentosa*." I did not remark any thing peculiar in the colour of the flowers at Bury, nor have I seen the fruit, but I observe the germen varies in shape, and in the quantity of its bristles.



June 1st 1808 Published by J.& J. Sowerby London.

SALIX cinerea.

Grey Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

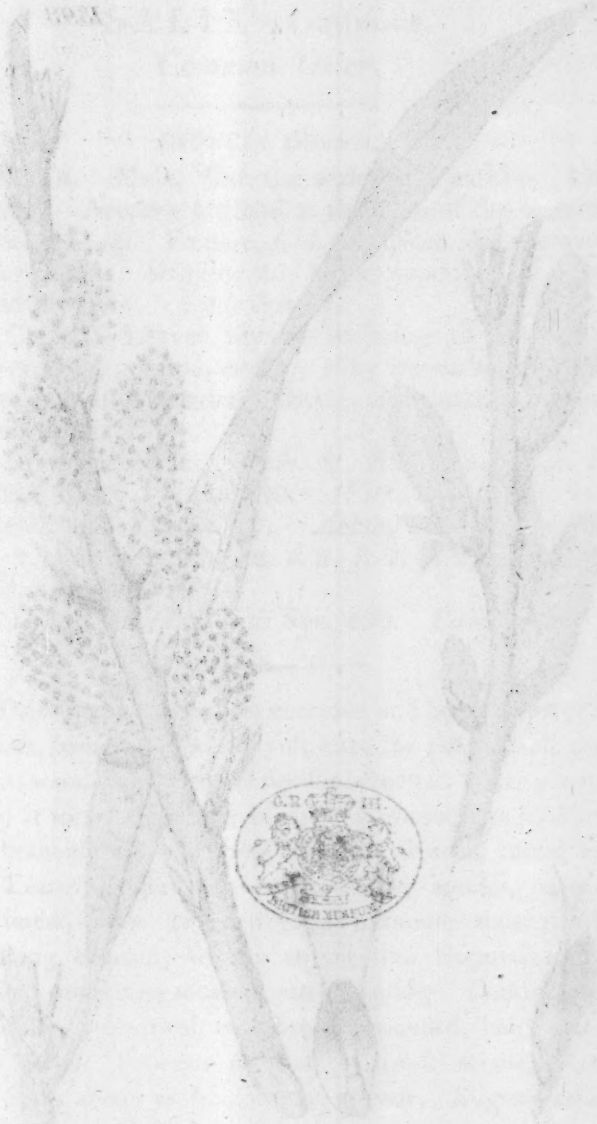
SPEC. CHAR. Leaves slightly serrated, obovato-lanceolate; underneath reticulated with veins, glaucous, downy. Stipulas half-heartshaped, serrated.

SYN. Salix cinerea. *Linn. Sp. Pl.* 1449. *Fl. Suec. ed.* 2. 353. *Fl. Lapp. ed.* 2. 296, without Villars's synonym. *Sm. Fl. Brit.* 1063.

S. daphnoides. *Villars Dauph. v.* 3. 765. *t.* 50. *f.* 7; bad.

I BELIEVE this Willow may not be very uncommon, but it is one of the most difficult to determine. I know not from what part of Norfolk Mr. Crowe brought the very plant whence our specimens were taken, and which we have studied together several years, at various seasons, and determined to be the true Linnæan *cinerea*, as well as a distinct species. It flowers after the middle of April. Our leaves were gathered at the end of June.

This is a small crooked and apparently useless tree. It is allied on the one hand to *S. oleifolia*, *t.* 1402, but the flower-buds and catkins are not so large, nor the stipulas vaulted nor rounded; and on the other to *S. aquatica*, *t.* 1437, with some of whose various forms it is most likely to be confounded. The leaves however are always more lanceolate, more thick and downy, not thin and pliable. The stipulas as far as we have observed are always half-heartshaped. The catkins are rather larger than in *aquatica*, of which our *t.* 1437 shows the extreme size. The earlier or lower leaves in both these species, but especially *cinerea*, are sometimes many of them quite entire. We have seen only the male plant.



June 2. 1808. Publish'd by Ja.s Sowerby London.

SALIX viminalis.

Common Osier.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Leaves linear, inclining to lanceolate, very long, pointed, entire; silky beneath. Branches straight and slender. Style elongated. Stigmas undivided.

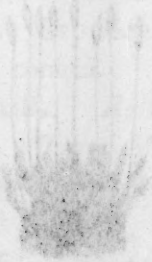
SYN. Salix viminalis. *Linn. Sp. Pl.* 1448. *Sm. Fl. Brit.* 1070. *Huds.* 430. *With.* 54. *Hull.* 219. *Relh.* 387. *Sibth.* 17. *Abbot.* 213. *Hoffm. Sal. v.* 1. 22. *t.* 2. *f.* 1, 2. *t.* 5. *f.* 2. *t.* 21. *f.* e, f, g. *Ehrh. Arb.* 69.

S. folio longissimo. *Raii Syn.* 450. *Cant.* 146.

THE Osier is one of the most common and best known of all the *Salices*, being so generally cultivated for the valuable produce of its wand-like tough and flexible branches. When allowed to grow, it forms a considerable tree, flowering late in April.

The branches are very long, straight, slender, round and silky. Leaves longer than in any other species, narrow, almost linear, acute, entire, revolute; smooth above; silky and shining beneath, with a strong rib. Stipulas linear-lanceolate, sometimes toothed, often wanting. Catkins from distinct buds, cylindrical, with brown, rounded, hairy scales. Nectary ovate. Stamens distinct. Capsule sessile, ovate, silky. Style about as long as the capsule. Stigmas acute, long, slender, undivided.

Much has been said about the Velvet Osier, as better than the common one. Mr. Crowe was first imposed upon with our *mollissima*, *t.* 1509, under that name, but it proved good for nothing. He then received one so exactly like the common kind that it seems at most not more than a variety. From this our male catkins are taken.



June 1.1808. Published by Jas Sowerby London.

GRIMMIA heteromalla.

Curve-leaved Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves bristle-shaped, leaning one way, dilated at the base. Capsule upright, cylindrical, slightly ovate. Lid conical.

SYN. Grimmia heteromalla. *Roth. Germ. v.* 3. 145. *Sm. Fl. Brit.* 1194. *Turn. Musc. Hib.* 30.

Weisia heteromalla. *Hedw. Sp. Musc.* 71. *Crypt. v.* 1. 22. *t.* 8.

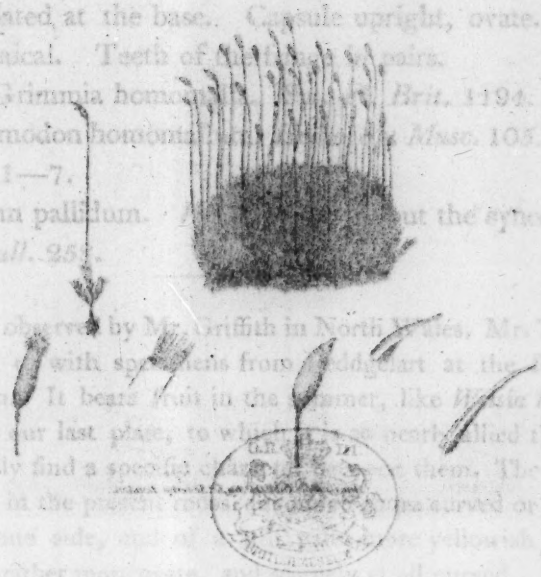
Afzelia heteromalla. *Ehrh. Crypt.* 173.

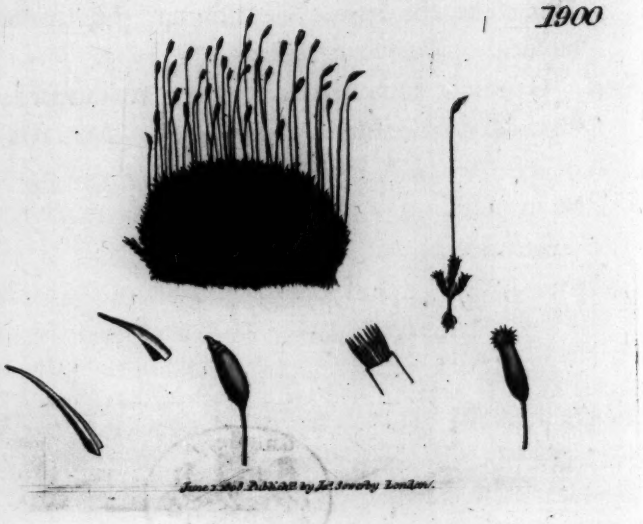
Bryum Weisia. *Dicks. Crypt. fasc.* 2. 5. *Dr. Pl.* 94. *With.* 827. *Hull.* 261. *Hoffm. Germ. v.* 2. 33.

MENTIONED by Mr. Dickson as growing in woods and sandy ground. Mr. G. Don finds it sparingly about Forfar. Our specimens were communicated by Mr. Turner from Ireland, where Dr. Scott discovered this species.

The plants grow in tufts and are all at first simple, sometimes subdivided after flowering. Leaves light-green, scattered, curved moderately to one side, bristle-shaped, furnished with a strong nerve, their base more or less suddenly dilated, their margins entire. Fruit-stalk terminal, straight, slender, an inch tall, crimson, pale at the summit. Capsule brown, very smooth, almost perfectly erect, cylindrical inclining to ovate, a little narrowed at the mouth. Lid small, conical, acute, reddish, more or less evidently bent to one side. Teeth of the fringe all equidistant, pale brown. Veil slender, pellucid, fugacious.

The broad bases of the leaves have a peculiarly smooth glossy aspect, observable also in the capsule, which ripens in the summer.





June 1, 1818 Published by Jas. Sowerby London.

GRIMMIA homomalla.

Pale Curled Grimmia.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fringe* simple, of 16 teeth, broadest at their base. *Flowers* terminal. *Veil* cylindrical.

SPEC. CHAR. Leaves bristle-shaped, curled to one side, dilated at the base. Capsule upright, ovate. Lid conical. Teeth of the fringe in pairs.

SYN. Grimmia homomalla. *Sm. Fl. Brit.* 1194.

Didymodon homomallum. *Hedw. Sp. Musc.* 105. *t.* 23. *f.* 1—7.

Bryum pallidum. *With.* 818, without the synonyms. *Hull.* 258.

FIRST observed by Mr. Griffith in North Wales. Mr. Turner favoured us with specimens from Beddgelart at the foot of Snowdon. It bears fruit in the summer, like *Weisia heteromalla* in our last plate, to which it is so nearly allied that we can hardly find a specific character between them. The leaves however in the present moss are much more curved or curled toward one side, and of a still paler more yellowish green. Capsule rather more ovate, and scarcely at all curved. In the fringe resides the chief distinction, the teeth of this species being approximated in pairs, though still perfectly distinct at their base. This approximation constitutes the sole distinction of Hedwig's genus *Didymodon*, some of the species of which have 16 teeth, others 32. The latter range themselves most unexceptionably in *Trichostomum*, the combination or separation of each pair of teeth at their base proving by experience of no solid generic importance; and that those with 16 teeth ought not to be separated from *Grimmia*, is evinced by the two plants of which we are treating, whose whole structure and habit are so much alike, that it is difficult to distinguish between them.

June 1. 1808. Published by Jas Sowerby London.

DICRANUM ellipticum.

Elliptical Fork-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong. *Fringe* of 16 flat, cloven teeth, a little inflexed.

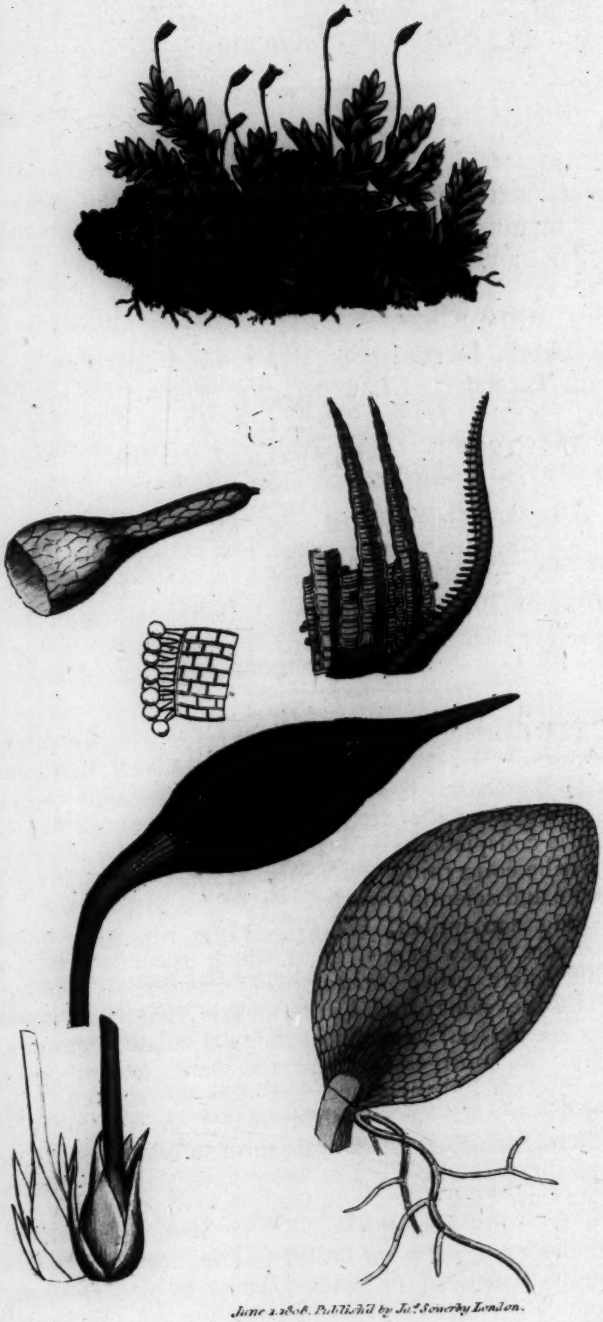
SPEC. CHAR. Stems but slightly branched, tufted. Leaves awlshaped, pointless, ovate at their base. Capsule elliptical, contracted at the mouth, erect. Lid pointed, straight.

SYN. Dicranum ellipticum. *Sm. Fl. Brit.* 1213. *Turn. Musc. Hib.* 76. *t.* 6. *f.* 2.

Bryi n. 29 varietas atra. *Dill. Musc.* 371.

DILLENIUS gathered this moss, without distinguishing it as a species from *Trichostomum microcarpon, t.* 1440, upon the cold summit of Snowdon, from which famous spot Mr. Turner brought our specimens. It has been found by Mr. R. Brown, a most accurate observer, on the top of the Irish mountain Bulbein. It bears fruit in June and July.

The stems form dense perennial tufts, and are about an inch high, simple or slightly branched, clothed all over with imbricated leaves. The latter are of a light green when young, but soon turn brown, and at length quite black. They taper from an ovate base, to an awlshaped, but blunt and beardless, point, and have a single rib and an entire margin. They curve a little, especially when young, toward one side. Fruit-stalk half an inch long, solitary, erect, spirally twisted when dry. Capsule upright, exactly elliptical, smooth, brown, shortish, with a contracted mouth. Teeth closely inflexed, brown. Lid straight, sharp-pointed, not so long as the capsule.



June 1.1808. Published by Jas Sowerby London.

HOOKERIA lucens.

Shining Hookeria.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate, reticulated and dotted, from a lateral scaly sheath. *Outer fringe* of 16 teeth: *inner* membranous, with 16 teeth. *Veil* reticulated, cellular, undivided.

SPEC. CHAR. Leaves in three rows, elliptical, uniform, entire, without ribs.

SYN. Hookeria lucens. *Sm. MSS. apud Soc. Linn.*

Hypnum lucens. *Linn. Sp. Pl.* 1589. *Sm. Fl. Brit.* 1295. *Hedw. Fund. v.* 1. 13. *t.* 1. *f.* 4—6. *Sp. Musc.* 243. *Huds.* 495. *With.* 845. *Hull.* 268. *Lightf.* 743. *Turn. Musc. Hib.* 155. *Dicks. H. Sicc. fasc.* 2. 22.

H. pennatum aquaticum lucens, longis latisque foliis. *Dill. Musc.* 270. *t.* 34. *f.* 10.

H. repens filicifolium ramosum, foliolis majoribus magisque crebris. *Dill. in Raii Syn.* 88.

GATHERED on Holt heath, Norfolk, laden with capsules, in February 1808, by Mr. W. Jackson Hooker, F.L.S. the discoverer of *Buxbaumia aphylla*, to whom I am happy to dedicate this new genus; more especially as the reticulated habit, for which it is conspicuous, so nearly agrees with the *Jungermanniæ*, a tribe concerning which Mr. Hooker is preparing a very elaborate and scientific work.

I have long ago hinted, *Fl. Brit.* 1295, that this moss might constitute a new genus, since which the observations of M. Labillardiere prove *Anictangium bulbosum* of Hedwig to belong to the same, and I am indebted to Mr. Menzies for 6 more species, all agreeing in their reticulated capsules, which I find the most essential generic mark, and more or less closely in habit and the other characters above given.

Hookeria lucens grows in wet shady places, most frequently in the northern counties. The stems form tufts among grass, creeping, partly ascending. Leaves generally in 3 ranks, vertical, spreading in 2 rows, elliptical, entire, pale, pellucid, juicy, most beautifully reticulated, but without rib or veins. Sheaths solitary or in pairs, of ovate, pointed leaves. Stalks red. Capsule somewhat drooping, ovate, brown, shining, all over reticulated, as well as its conical lid, the margin of which is fringed with a chain-like ring. Veil conical, tight, undivided, crenate, whitish, all over reticulated, and very peculiar.

G.R.
III

June 1.1808. Published by Jas Sowerby London.

PTEROGONIUM sciuroides.

Squirrel-tail Wing-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* oblong, from a lateral scaly sheath. *Fringe* simple, of 16 linear upright teeth. *Veil* generally hairy.

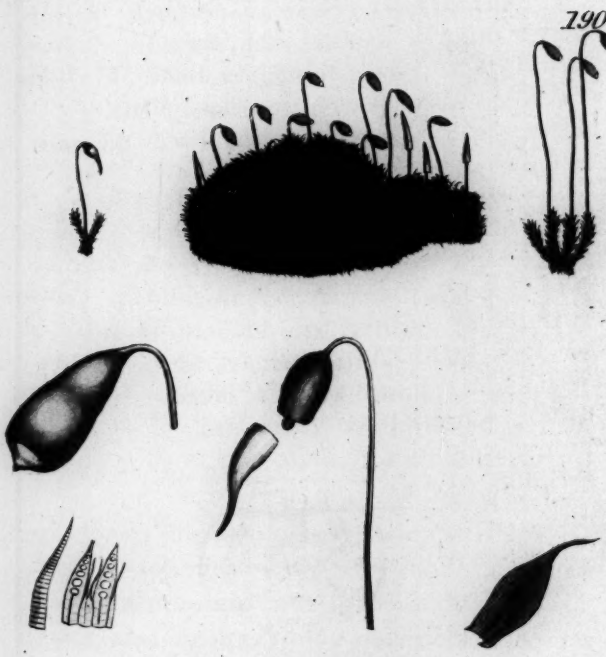
SPEC. CHAR. Stems creeping, branched. Branches cylindrical, incurved by drying. Leaves ovato-lanceolate, striated, entire. Veil smooth. Teeth of the fringe deeply cloven.

SYN. Pterogonium sciuroides. *Turn. Musc. Hib.* 32.
Dicranum sciuroides. *Sm. Fl. Brit.* 1215. *Sibth.* 280.
Fissidens sciuroides. *Hedw. Sp. Musc.* 161.
Hypnum sciuroides. *Linn. Sp. Pl.* 1596. *Huds* 507. *With.* 846. *Hull.* 274. *Relh.* 429. *Abbot.* 251.
H. arboreum sciuroides. *Dill. Musc.* 319. *t.* 41. *f.* 54.
H. trichoides erectum, ramulis recurvis, obscuri coloris. *Raii Syn.* 83.

FEW more judicious improvements in botany have been suggested than the removal of this moss from *Dicranum* to *Pterogonium* by my excellent friend Mr. Turner, in which I now heartily concur. The remarkable sheath and its lateral insertion, as well as the habit, require this, not to mention the structure and texture of the fringe, which only differs from the other known species in having deeply cloven teeth, for so I think it most intelligible to describe them.

Our specimens in fruit (which is very rare in England) were sent from the New Forest by Mr. Lyell, with many judicious remarks. He mentions the plant as frequent on the stems of old beeches, and conspicuous for its rich green hue. The creeping stems are much branched, and the branches are curved upward when dry, cylindrical, not much subdivided, thickly clothed with broadish-lanceolate, pointed, entire leaves, each marked with 3 longitudinal plaits, but not ribbed. They sometimes bear axillary branching buds. Sheaths axillary, long and taper. Fruitstalks tawny, scarcely thrice as long. Capsules erect, ovate, smooth. Veil slender, smooth. Lid conical, red. Fringe small, tender, pale, its teeth deeply divided, but resembling the internal fringe of a *Hypnum* in texture more than the firm red teeth of a true *Dicranum*. Male flowers red.

1904



June 1.1808. Published by Ja.s Sowerby London.

BRYUM cæspititium.

Lesser Matted Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 16 teeth, broad at the base: *inner* a toothed membrane. *Flowers* terminal. *Capsule* ovate-oblong, smooth. *Veil* smooth.

SPEC. CHAR. Stem branched from the base, tufted. Leaves ovato-lanceolate, flat, hair-pointed, entire. Capsule obovate, pendulous.

SYN. Bryum cæspititium. *Sm. Fl. Brit.* 1354. *Linn. Sp. Pl.* 1586. *Hedw. Sp. Musc.* 180. *Huds.* 488. *Hull.* 256. *Sibth.* 290. *Lightf.* 736. *Curt. Lond. fasc.* 3. *t.* 67. *f.* 1. *Turn. Musc. Hib.* 120.

B. pendulum ovatum cæspiticium et pilosum, setâ bicolori. *Dill. Musc.* 396. *t.* 50. *f.* 66, A—E.

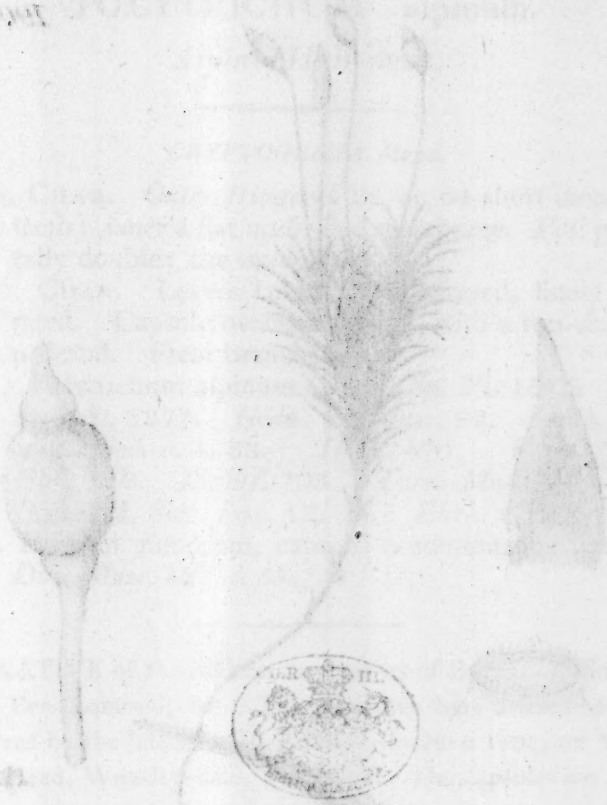
B. trichoides capitulis reflexis, pediculis imâ medietate rubris, summâ luteo-virentibus. *Raii Syn.* 100.

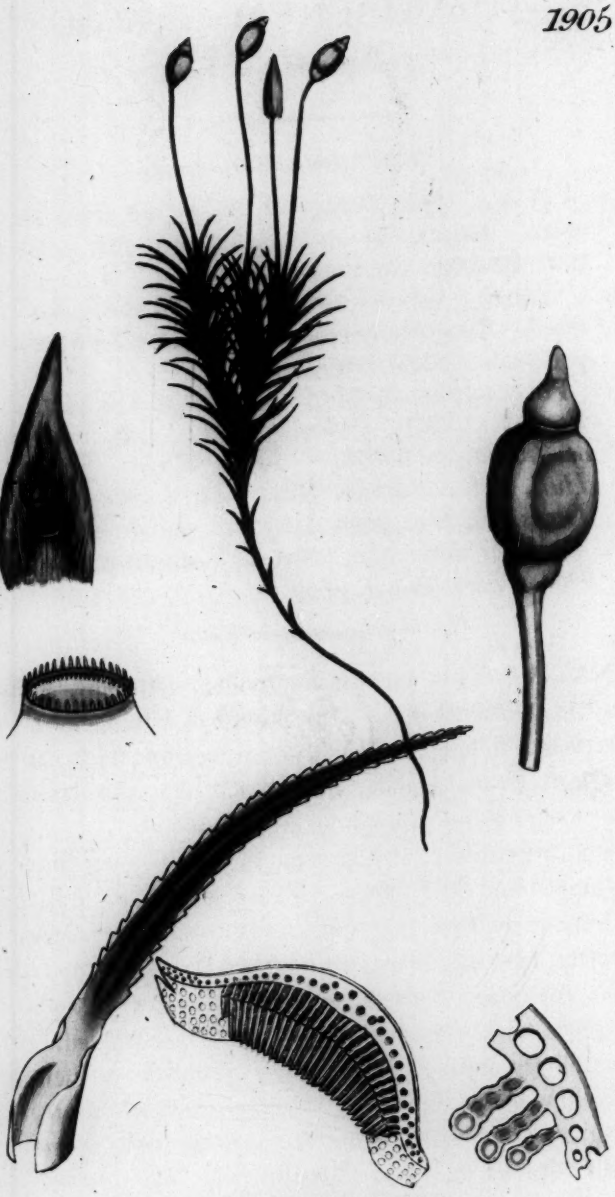
Mnium cæspititium. *Relh.* 421. *With.* 807. *Abbot.* 235.

COMMON on walls and roofs, sandy banks and gravelly grassy places, bearing fruit from February to April.

The stems are perennial, and form dense cushion-like tufts, their branches dividing from the very base, each about 3 or 4 lines long, simple, spreading, leafy, obtuse and terminated by a starry head of leaves larger than the rest. Leaves all bright green, ovato-lanceolate, flattish, entire, with a single rib which ends in a hair-like point. Fruit-stalks solitary from the base of the branches, capillary, upright, an inch or more in height, their lower part crimson, the upper green. Capsule pendulous, ovate when young; then obovate, with a convex, pointed lid; at length dilated at the mouth. Fringe of pale yellow, very acute teeth. Veil taper, sharp-pointed.

It will be seen by referring to *t.* 1601 how different *Bryum bicolor* is from this species.





July 1.1808. Published by Jas. Sowerby, London.

POLYTRICHUM alpinum.

Alpine Hair-moss.

CRYPTOGAMIA Musci.

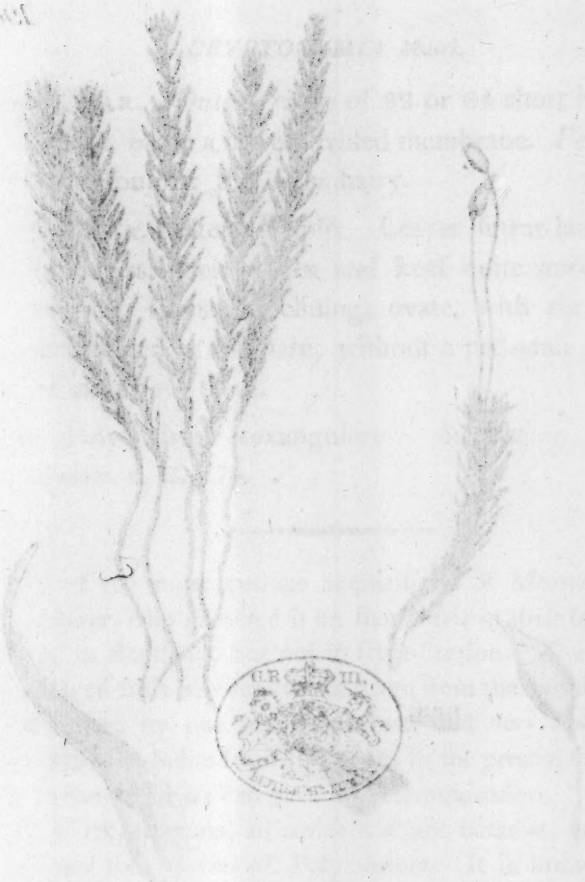
GEN. CHAR. *Outer fringe* of 32 or 64 short incurved teeth: *inner* a flat undivided membrane. *Veil* generally double: the *outer* hairy.

SPEC. CHAR. Leaves lanceolate-awlshaped, finely serrated. Capsule ovate, drooping, with a top-shaped pedestal. Stem branched.

SYN. Polytrichum alpinum. *Linn. Sp. Pl.* 1573. *Sm. Fl. Brit.* 1377. *Hedw. Sp. Musc.* 92. *Menz. Tr. of L. Soc. v.* 4. 83. *Huds.* 470. *With.* 797. *Hull.* 248. *Lightf.* 703. *Turn. Musc. Hib.* 85. *Dicks. H. Sicc. fasc.* 12. 19. *Ehrh. Crypt.* 2.
P. alpinum ramosum, capsulis e summitate ellipticis. *Dill. Musc.* 427. *t.* 55. *f.* 4.

A NATIVE of the highest mountains of Britain, as Snowdon, Ben Lomond, &c. The specimen here delineated was gathered by the late Mr. W. Brunton, in June 1803, on Moss Dale Head, Wensley-dale, Yorkshire. The capsules are produced in succession throughout the summer.

Stems perennial; slender and naked below; branched, level-topped and leafy above. Leaves of a dark dull green, sheathing at the base, spreading and in some degree recurved, lanceolate, tapering, acute, without any keel, rib, or terminal bristle; their edges bordered with fine cartilaginous serratures; their green disk very deeply and curiously furrowed. Fruit-stalks solitary, near 2 inches high, purplish in their lower part, yellow above, not quite straight. Capsule ovate, without angles, drooping and dark brown when ripe, standing on a small top-shaped base. Mouth red. Lid conical when young, but its sides soon become depressed. Veil double, of a golden brown. Fringe of 32 small simple pale teeth, accompanied within the mouth by the membranous expansion already noticed at *t.* 1624.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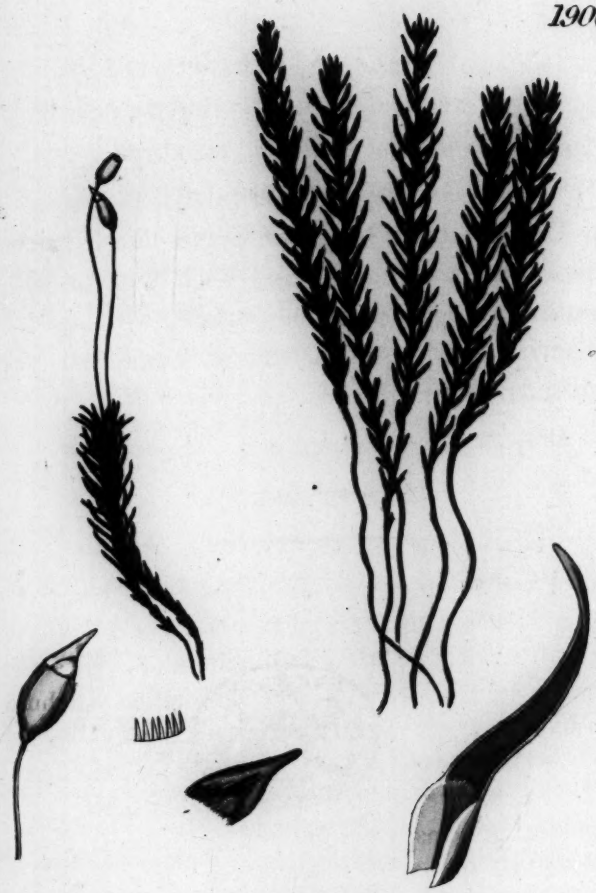


July 1 1806. Published by Jas Sowerby London.

POLYTRICHUM sexangulare.

Six-sided Hair-moss.

CRYPTOGAMIA Musci.

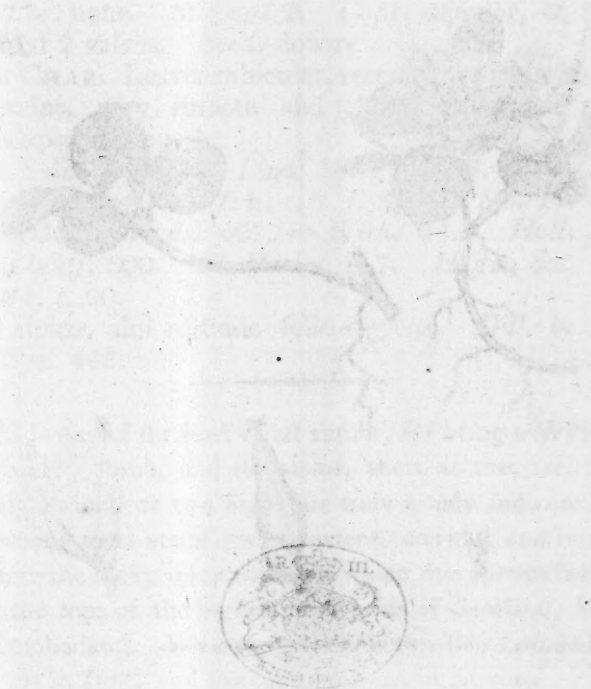
GEN. CHAR. *Outer fringe* of 32 or 64 short incurved teeth: *inner* a flat undivided membrane. *Veil* generally double: the *outer* hairy.

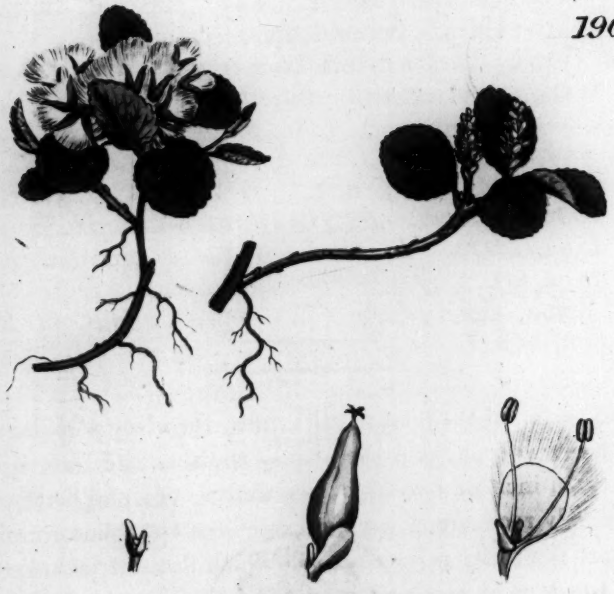
SPEC. CHAR. Stem simple. Leaves linear-lanceolate, beardless, their edges and keel quite smooth and entire. Capsule inclining, ovate, with six angles, contracted at the base, without a pedestal. Fringe of sixty-four teeth.

SYN. Polytrichum sexangulare. *Swartz in Schrad. Journ. v.* 2. 174.

ONE of the most curious acquisitions of Messrs. Turner and Hooker, who gathered it on Ben Nevis in their last-year's journey to Scotland, but not in fructification. The annexed specimen in fruit was sent us long ago from the Saltzburg alps of Germany, by our much-esteemed and very liberal correspondent Dr. Schrader, with whom in the present disordered state of the world we can have no communication.

Mr. Flörk, it seems, an eminent alpine botanist, first found and named this species of *Polytrichum*. It is known by its leaves being perfectly smooth and entire both at the edges and keel, linear-lanceolate, slightly incurved, channelled above, convex beneath, without any terminal hair. Its capsule is ovate and 6-sided, contracted at the base so as to resemble an *apophysis*, but we think it has none. Veil double. Lid awl-shaped. Fringe of 64 minute white slender teeth standing in pairs.





July 1.1808. Published by Jo.ª Sowerby London.

SALIX herbacea.

Least Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

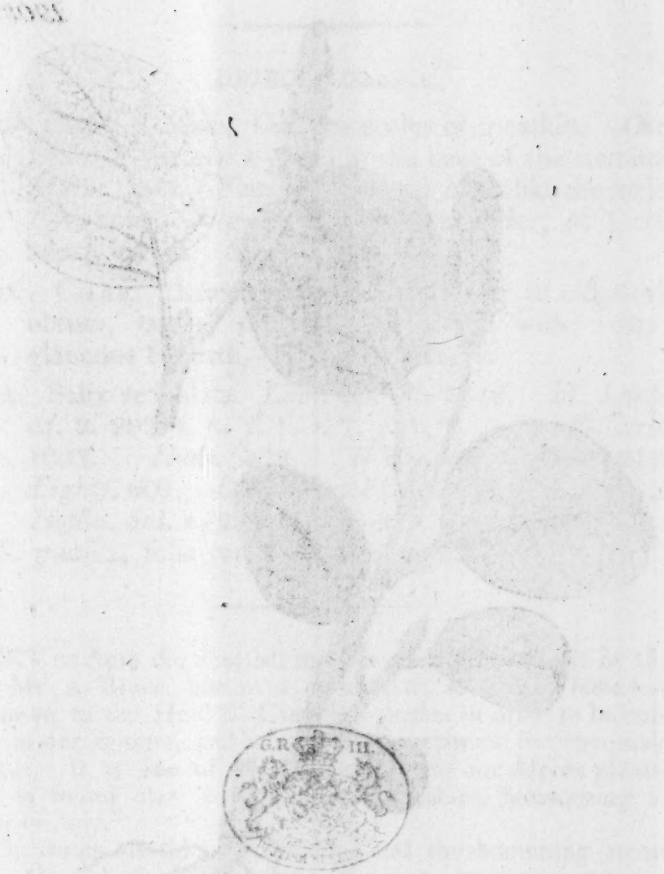
SPEC. CHAR. Leaves orbicular, serrated, reticulated with veins, very smooth and shining on both sides. Capsules smooth.

SYN. Salix herbacea. *Linn. Sp. Pl.* 1445. *Fl. Lapp. ed.* 2. 294. *t.* 8. *f.* h. *t.* 7. *f.* 3, 4. *Sm. Fl. Brit.* 1056. *Huds.* 427. *With.* 48. *Hull.* 218. *Lightf.* 600. *Fl. Dan. t.* 117. *Hoffm. Sal. v.* 1. 74. *t.* 20.

S. alpina, alni rotundo folio repens. *Dill. in Raii Syn.* 448.

THIS is one of the least of all shrubs, for being a Willow it is certainly a shrub, and the stems, short as they are, being scarcely an inch or two high, are truly woody and perennial. The woody roots are of greater extent, creeping and running deep into the rocky micaceous soil which this species inhabits about the tops of the highest mountains of Scotland, Wales and Cumberland. We have gathered it on Ben Lomond. It blossoms in June, and the capsules ripen in August.

Leaves on short footstalks, as correctly orbicular as in almost any plant, serrated all round, sometimes emarginate, very smooth, shining, reticulated, rather rigid, deciduous. We have found no stipulas. Catkins terminal, solitary, on short stalks, lemon-coloured, ovate. Scales obovate, internally hairy in the male only, as far as we can perceive. Nectary of 2 ovate glands. Stamens distinct. Germen nearly sessile, ovate, taper, smooth, reddish as it ripens. Style very short. Stigmas small, deeply cloven.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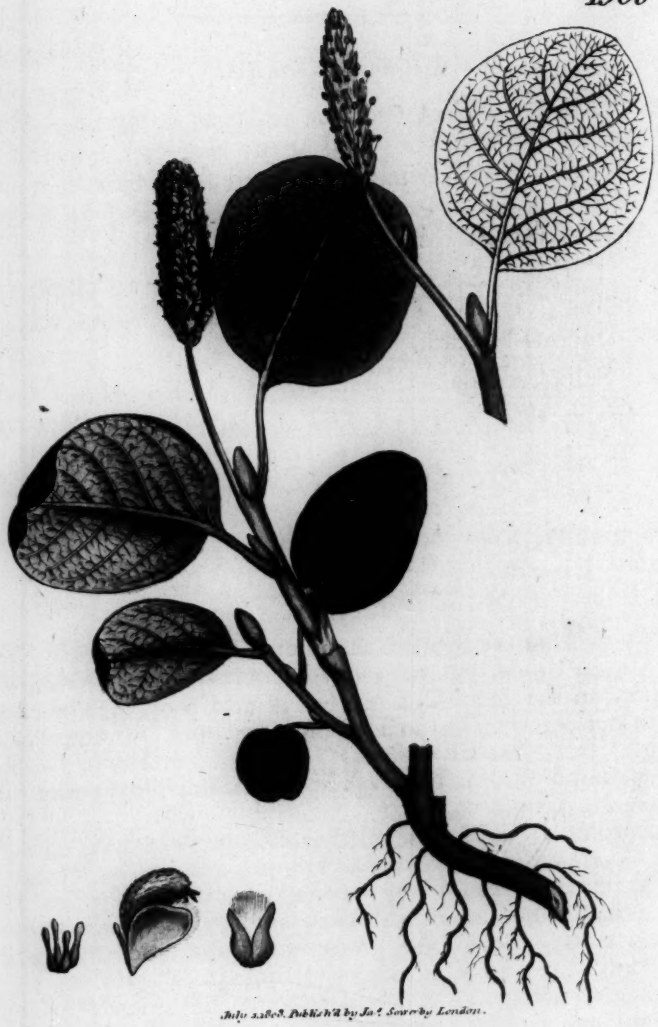


Julys 1.1808. Published by Jas. Sowerby London.

SALIX reticulata.

Wrinkled Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

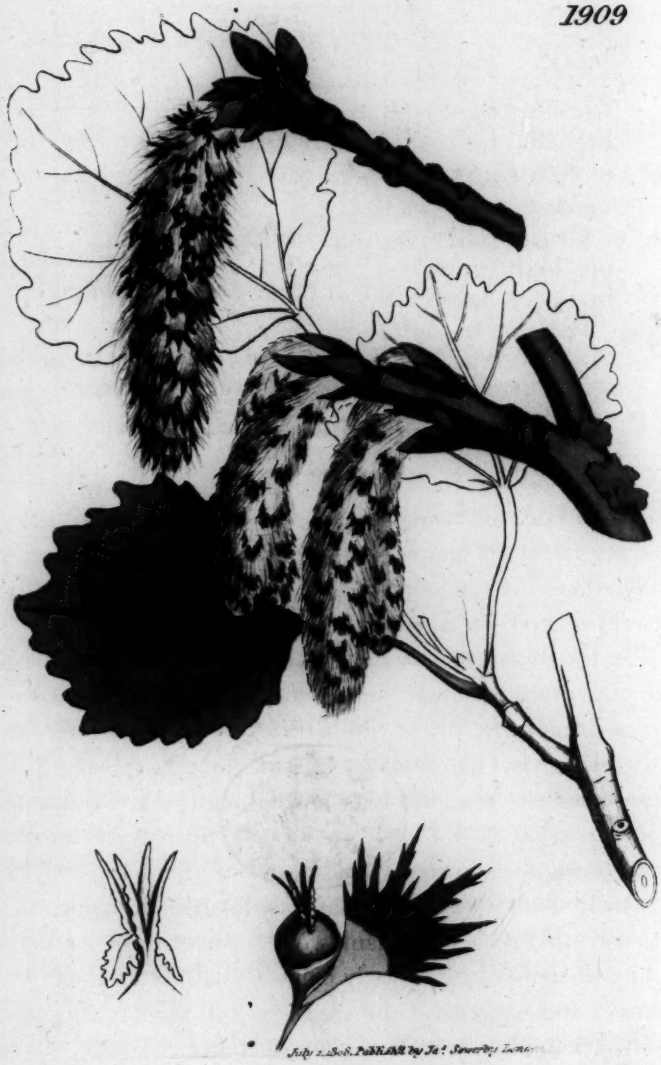
SPEC. CHAR. Leaves orbicular inclining to elliptical, obtuse, entire, smooth, reticulated with veins; glaucous beneath. Capsules shaggy.

SYN. Salix reticulata. *Linn. Sp. Pl.* 1446. *Fl. Lapp. ed.* 2. 296. *t.* 8. *f.* 1. *t.* 7. *f.* 1, 2. *Sm. Fl. Brit.* 1057. *Huds.* 428. *With.* 49. *Hull.* 218. *Lightf.* 601. *Dicks. Dr. Pl.* 44. *Fl. Dan. t.* 212. *Hoffm. Sal. v.* 2. 3. *t.* 25—27.

S. pumila, folio rotundo. *Raii Syn.* 449.

SENT us from the Scottish mountain of Ben Lawers by the late Mr. A. Bruce, but in a dried state, so that we have had recourse to the Hon. C. Greville's garden in order to be correct in our colours, and to an exotic specimen for the male catkin. It is one of the most elegant of our Alpine plants, and is found also in Wales and Yorkshire, blossoming in June or July.

The roots are thick and woody, and the branching stems cling close to their native rocks, forming a carpet or tapestry over them. Leaves on long footstalks, without stipulas, an inch broad, orbicular or elliptical, smooth, rigid and coriaceous, entire, though the projection of the spaces between the beautiful net-work of the veins sometimes gives an appearance of notches; they are dark green and shining above; glaucous and opaque beneath. When young they are finely downy. Catkins on longish, terminal, red, downy stalks, cylindrical, many-flowered, reddish. Scales obovate, woolly. Nectary, in the female at least, of 4 awlshaped glands. Germen and capsule ovate, sessile, cottony. Stigmas deeply divided, with hardly any style.



July 1.1808. Published by Jas Sowerby, Lond.

POPULUS tremula.

Aspen, or Trembling Poplar.

DIOECIA Polyandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, torn. *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

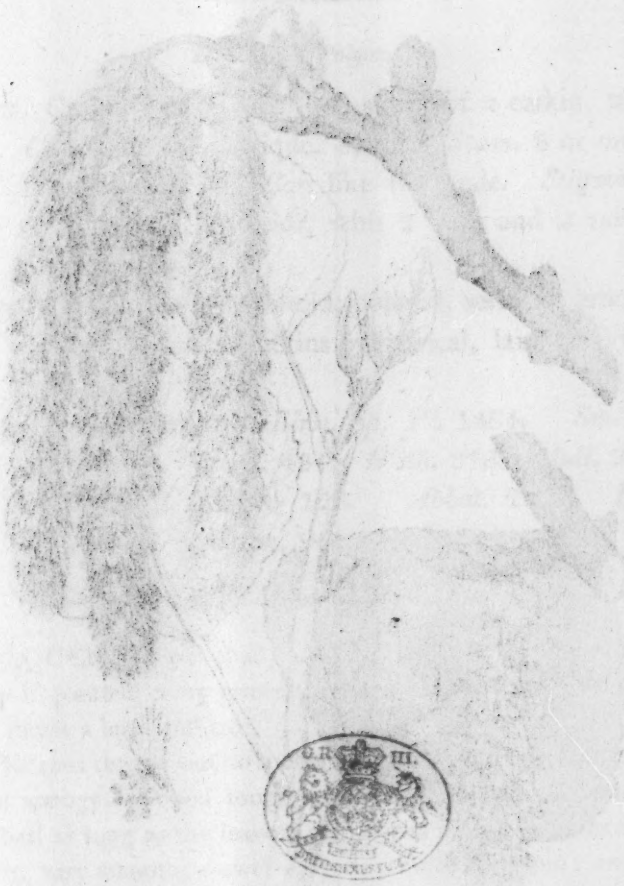
SPEC. CHAR. Leaves nearly orbicular, toothed, smooth on both sides. Footstalks compressed. Young branches hairy. Stigmas four, auricled at the base.

SYN. Populus tremula. *Linn. Sp. Pl.* 1464. *Sm. Fl. Brit.* 1081. *Huds.* 434. *With.* 375. *Hull.* 221. *Relh.* 390. *Sibth.* 126. *Abbot.* 215.
P. Lybica. *Raii Syn.* 446. *Ger. em.* 1487.

A NATIVE of rather moist woods, which will however, like several of its genus, grow in almost any situation, especially where the soil is gravelly. The catkins come forth in March, or early in April.

The roots throw out numerous shallow runners, which, like the more luxuriant young shoots, are often clothed with brown prominent hairs, but never hoary. The tree, when full grown, is tall, smooth, with a round, spreading top. Leaves smooth, roundish with a little point, wavy and bluntly toothed, entire at the base, quivering with every breath of wind (even to a proverb) by means of the long, vertically flattened, footstalks. Stipulas bristle-shaped, hairy, to be seen on the most luxuriant young shoots only. Female catkins 2 inches long, nearly cylindrical, hairy; their scales palmate and jagged. Germen short and thick. Stigmas 4, erect, linear, acute, with a pair of reflexed, ovate, crenate appendages or auricles at their base, the whole when fresh being of a rich crimson.

The wood is white, soft, light, of a fine grain. Beavers, according to the observation of Linnæus, feed on the bark in preference to other food.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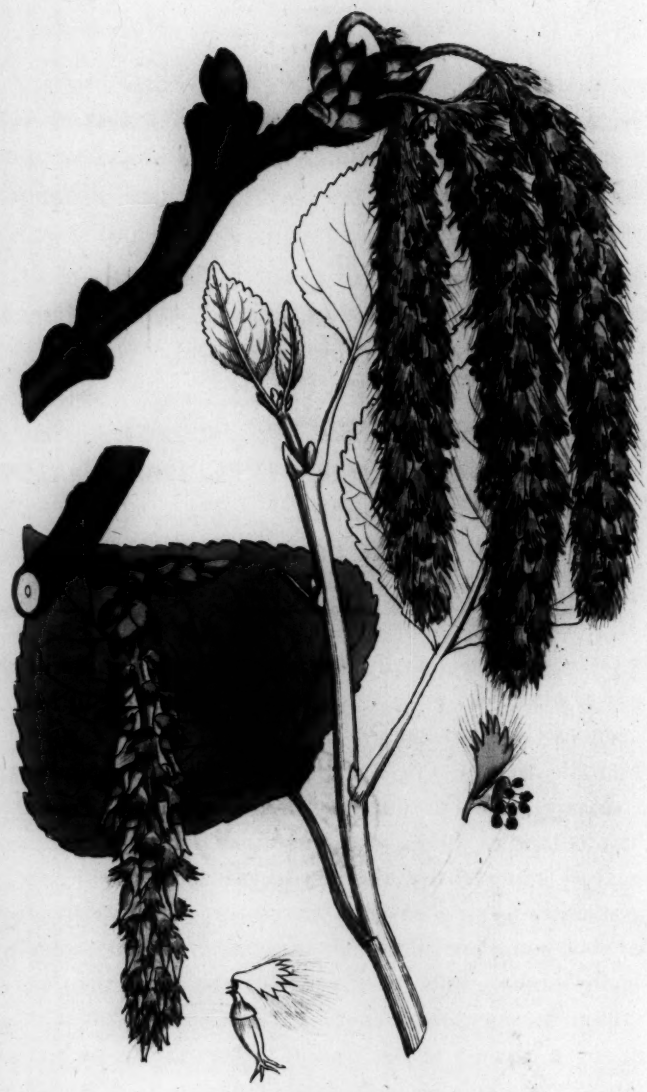


July 1.1808. Published by J. Sowerby London.

POPULUS nigra.

Black Poplar.

DIOECIA Polyandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, torn. *Cor.* turbinate, oblique, entire. *Stam.* 8 or more. Female, *Cal.* and *Cor.* like the male. *Stigmas* 4 or 8. *Caps.* superior, with 2 cells and 2 valves. *Seeds* downy.

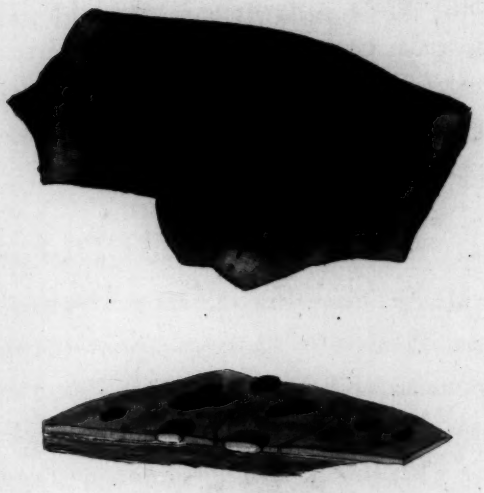
SPEC. CHAR. Leaves deltoid, pointed, serrated, smooth on both sides. Catkins cylindrical, lax. Stigmas four.

SYN. Populus nigra. *Linn. Sp. Pl.* 1464. *Sm. Fl. Brit.* 1081. *Huds.* 434. *With.* 376. *Hull.* 221. *Relh.* 391. *Sibth.* 126. *Abbot.* 215. *Raii Syn.* 446. *Ger. em.* 1486.

FREQUENT in wet shady places near rivers, but it will also grow if planted in dry gravelly ground. It flowers in March, and forms a large tall tree.

The root throws out no suckers. The bark is thick and somewhat spongy. Wood tough and close-grained. Footstalks but half as long as the leaves, sometimes hairy. Leaves deep green, very smooth, trowel-shaped, pointed, serrated; entire, and sometimes extended into an obtuse angle, at the base. Catkins stalked, long, loose and pendulous; their scales occasionally hairy or smooth. Stamens rarely more than 8 with us, though Linnæus and Leers describe 16. Germen elongated, of a slender ovate figure. Stigmas 4, awlshaped, simple.

The reason of our referring this genus, with others, to *Dioecia Polyandria* may be seen in *Introd. to Botany*, 482.



July. 12th 8. Published by Jas. Sowerby London.

OPEGRAPHA microscopica.

Microscopic Opegrapha.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* in black, linear, sessile, simple or branched, bordered *clefts*, in an uninterrupted crust.

SPEC. CHAR. Crust determined, very thin, smooth, shining, pale copper-coloured. Clefts scattered, immersed, somewhat parallel, mostly simple, oblong, with a very narrow black edge.

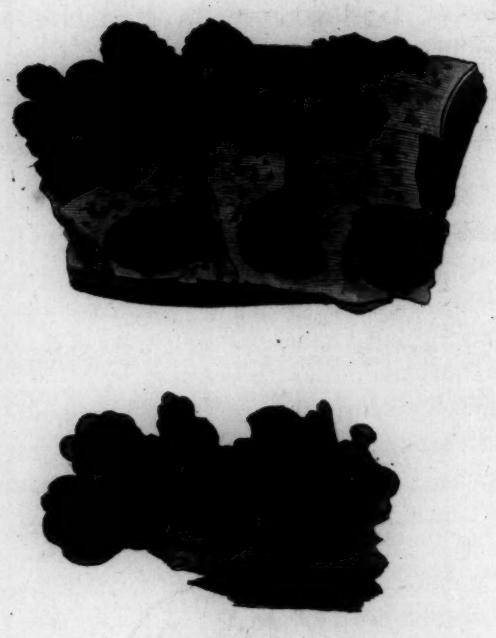
SYN. Graphis microscopica. *Ehrh. Crypt.* 273.

FOUND by Mr. W. Borrer on the smooth bark of young oaks in Sussex, along with *Lichen analeptus*, *t.* 1848. In the original specimen of Ehrhart, now before us, these two species are confounded; but as the present only belongs to *Opegrapha*, his *Graphis*, we must do him the justice to presume it is what he intended. We find no mention of it in any other publication.

The thin, smooth, pale brown, somewhat copper-coloured crust forms limited patches of various sizes, very much like those of the *Lichen* above mentioned. The fructification differs essentially, consisting in the present instance of the true oblong clefts of an *Opegrapha*, generally simple, ranged in a parallel manner, very small, and furnished with an extremely narrow black edge.

GR III
BRITISH MUSEUM

1972



July 1.1808. Published by Jas Sowerby London.

LICHEN fragrans.

Fragrant Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

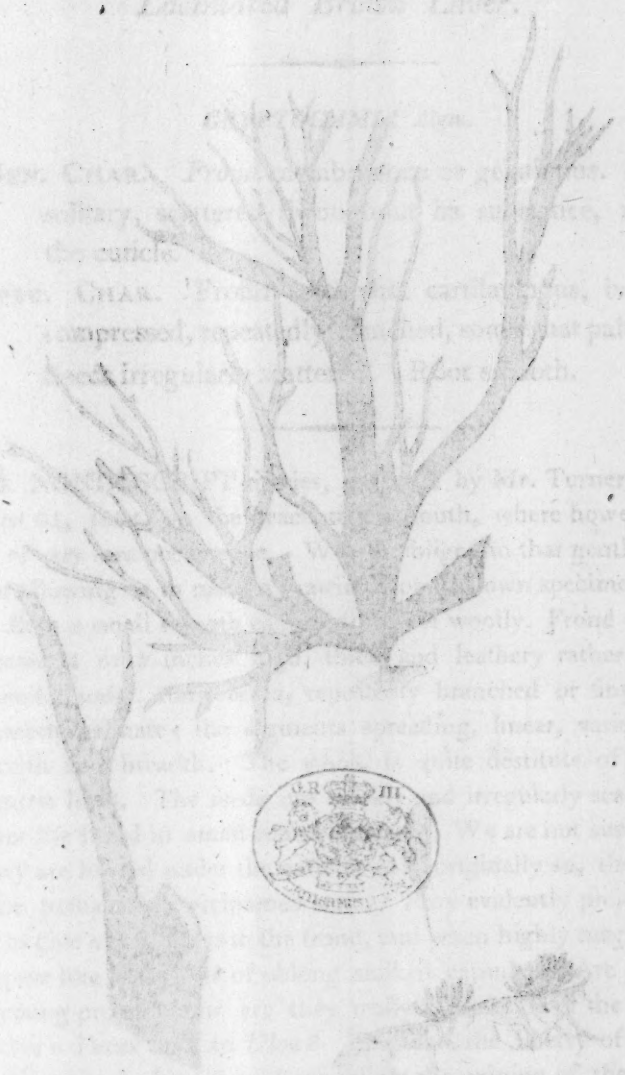
Female, smooth shields or tubercles, in which the seeds are imbedded.

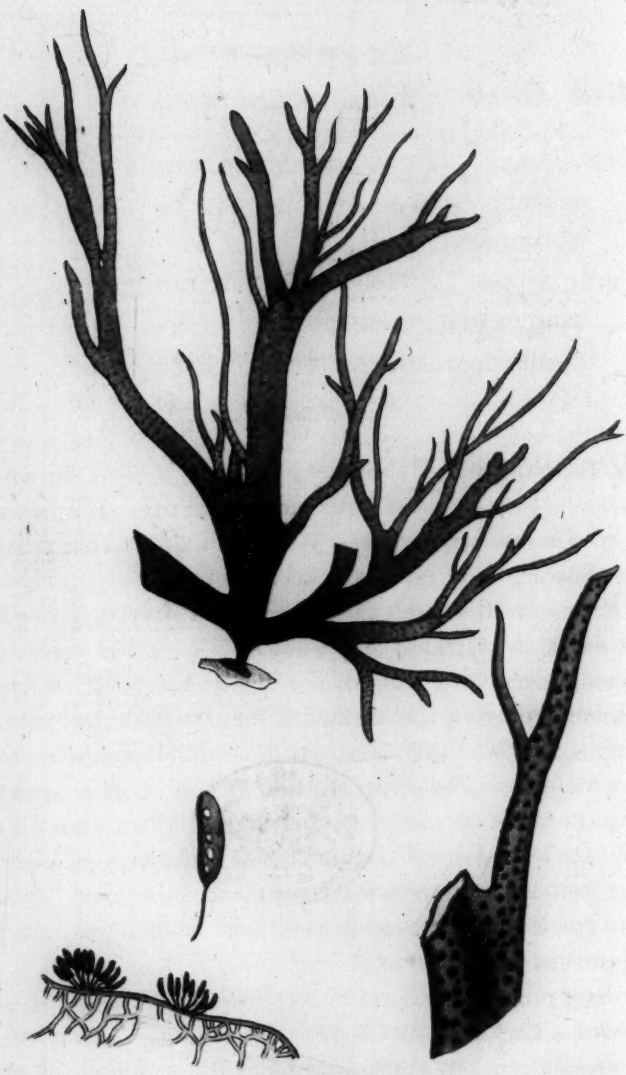
SPEC. CHAR. Gelatinous, fleshy, olive-black; its lobes ascending, crowded, rounded, thick-edged, crenate, smooth. Shields scattered, dull tawny, with a thick olive border.

GATHERED on the trunks of elms and ashes in Kent, Surrey and Sussex, by Mr. W. Borrer, who sent it to us as a new species, and we believe justly. We can refer it to none of the specimens or descriptions of Acharius or Bernhardi. If we err in so difficult a tribe, we must trust to the forgiveness of these authors and of our readers.

The fronds form small tufts, at first sight not unlike *L. fascicularis*, *t.* 1162, in aspect and colour, but very different when examined. They spread horizontally, but their lobes, which are small, rounded, crenate, thickened at the edge, turn upwards. The surface is smooth. Shields scattered irregularly, minute, sessile; their disk of a dull tawny hue, concave; their border thick, somewhat lighter than the frond, externally tumid and uneven. The plant is remarkable when moistened for a very sweet aromatic scent, not unlike the *spiritus volatilis aromaticus* of the apothecaries, though of course much fainter.

As we are on the subject of gelatinous Lichens, it may be useful to remark that *Parmelia sagenalis*, *Ach. Meth.* 247, *Dill. Musc. t.* 19. *f.* 21, proves by the specimen at Oxford, which we have examined, to be an *Ulva*, allied to *Conferva umbilicata*, Velley *Tr. of L. Soc. v.* 5. 169. *t.* 7, and Mr. Turner, on seeing my correspondent specimen, assures me it is *Ulva stellata* of Wulfen in *Jacq. Coll. v.* 1. 351.





July 1.1808. Published by Jas. Sowerby, London.

ULVA multifida.

Laciniated Brown Laver.

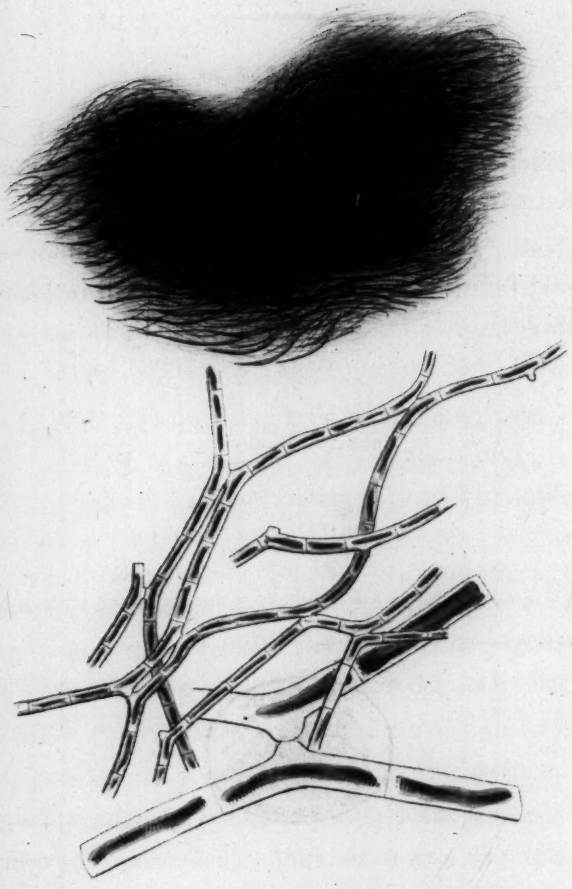
CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* membranous or gelatinous. *Seeds* solitary, scattered throughout its substance, under the cuticle.

SPEC. CHAR. Frond somewhat cartilaginous, brown, compressed, repeatedly branched, somewhat palmate. Seeds irregularly scattered. Root smooth.

A NONDESCRIPT species, gathered by Mr. Turner, August 31, 1804, on the beach at Yarmouth, where however it is of very rare occurrence. We are obliged to that gentleman for allowing us to make a drawing from his own specimen.

Root a small smooth callous disk, not woolly. Frond olive-brown 4 or 5 inches high, thick and leathery rather than membranous, compressed, repeatedly branched or fingered, scarcely palmate; the segments spreading, linear, various in length and breadth. The whole is quite destitute of concentric lines. The seeds are thickly and irregularly scattered over the frond in small round clusters. We are not sure that they are lodged under the cuticle, or if originally so, they are here perhaps in a viviparous state. They evidently project so as to give a roughness to the frond, and when highly magnified appear like little tufts of oblong stalked capsules. Are these a young progeny? or are they really capsules, and the plant rather a *Fucus* than an *Ulva?* We take the liberty of suggesting our doubts, though we follow the opinion of the able botanist to whom we are indebted for this communication, and who is in this tribe of such peculiar authority.



July 1, 1808. Published by Jas. Sowerby London.

CONFERVA genuflexa.

Combined Bent Conferva.

CRYPTOGAMIA Algæ.

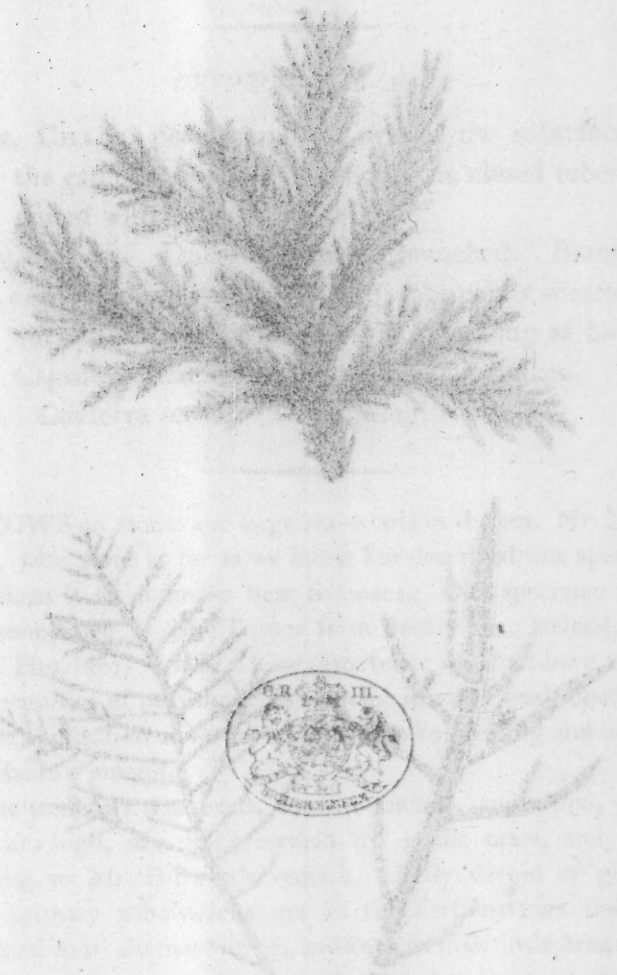
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Light green. Filaments unbranched, slender, brittle, here and there bent, and combined by their angles. Joints cylindrical, thrice as long as broad. Colouring matter in central lines.

SYN. Conferva genuflexa. *Roth. Catal. v.* 2. 199. *v.* 3. 268. *Dillw. Conf. t.* 6.
Conjugata angulata. *Vaucher Conf. t.* 8.

A NATIVE of fresh-water ditches and pools, for specimens of which we are obliged to Mr. W. Borrer.

It floats in dense, light- or yellowish-green masses, like several species already published in this work; but is known from all others by the flexures or bends in its filaments, which, at the time as we presume of impregnation, approach each other, and their approximating joints coalesce by a little tube; afterwards they separate again. The green mass which in *C. spiralis*, *t.* 1656, forms spiral lines, is here more simple, central, and nearly straight, in each joint. The joints moreover are longer in proportion to their diameter, and more exactly cylindrical, than in that species.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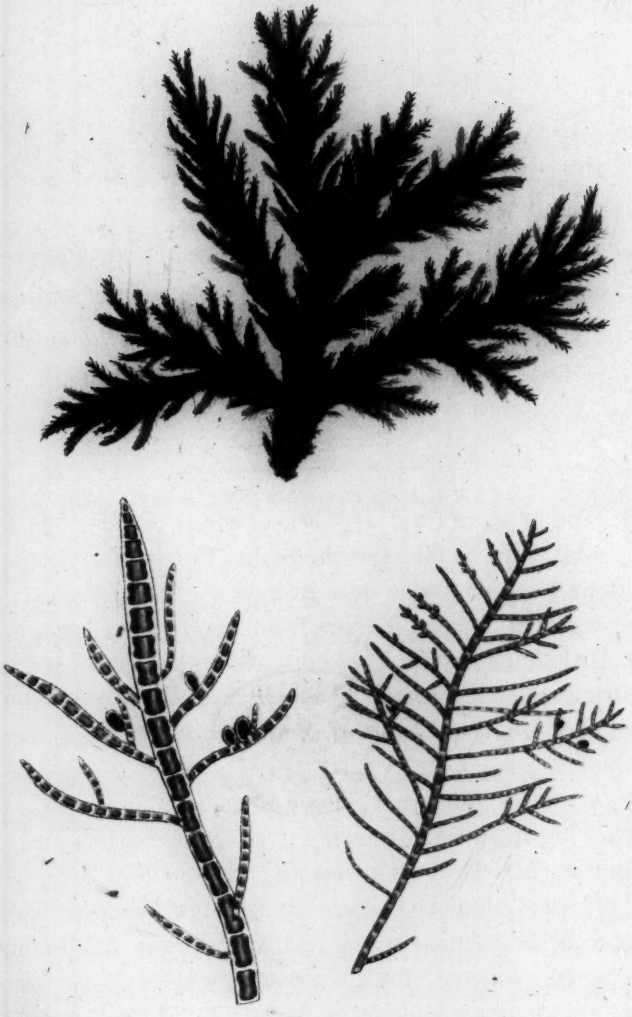


Linn. Trans. Published by the Society Londres

CONFERVA tetrica.

Dirty Red Conferva.

CRYPTOGAMIA Algæ.

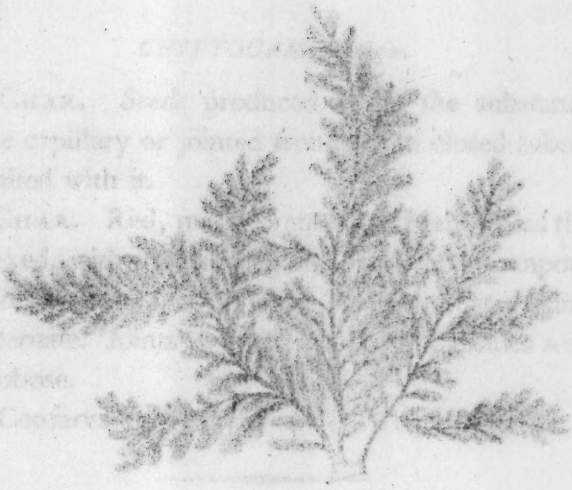
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

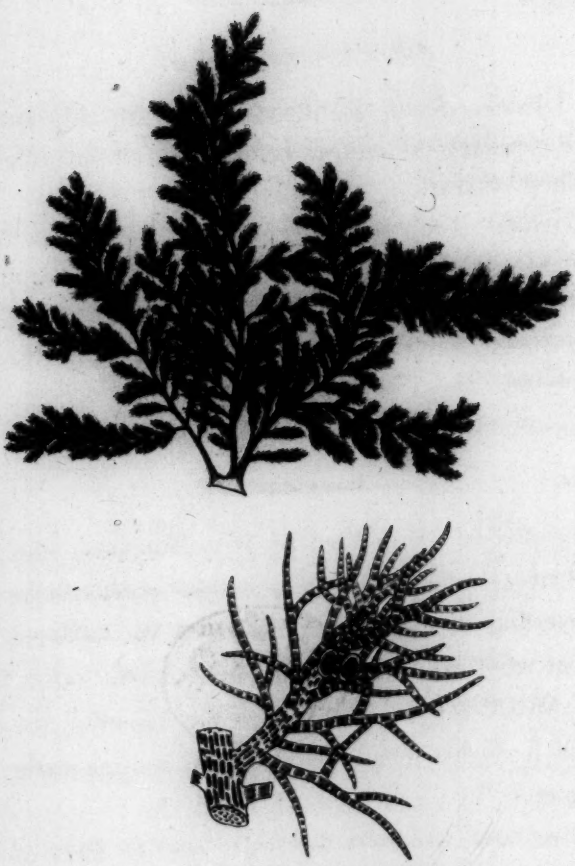
SPEC. CHAR. Dull red, much branched. Branches triply and alternately pinnate; the points somewhat curved. Joints twice or thrice as long as broad. Capsules scattered, obovate, slightly stalked.

SYN. Conferva tetrica. *Dillw. Conf. t.* 81.

GROWS on stones and large sea-weeds in the sea. Mr. Dillwyn, who alone as far as we know has described this species, mentions it as common near Swansea. Our specimen was communicated to Mr. Turner from Bantry bay, Ireland, by Miss Hutchins, a lady whose discoveries we shall have more opportunities of recording. We rejoice in every fresh instance of the application of taste and talents to so pleasing and commendable a pursuit.

The stems are numerous, much branched, and tufted, 6 or 8 inches high, of a dull brownish red in the mass, and, according to Mr. Dillwyn's remark, wholly devoid of gloss. The primary subdivisions are in the first instance doubly pinnated in an alternate order, and each of their little branches often again pinnated, the points somewhat curved. Joints equal, about twice as long as broad; in the old parts still longer. Capsules not quite sessile, obovate, scattered, mostly solitary on the upper edges of a few of the ultimate little branches.





Aug. 1, 1808. Published by Jas. Sowerby, London.

CONFERVA Arbuscula.

Red Shrubby Conferva.

CRYPTOGAMIA Algæ.

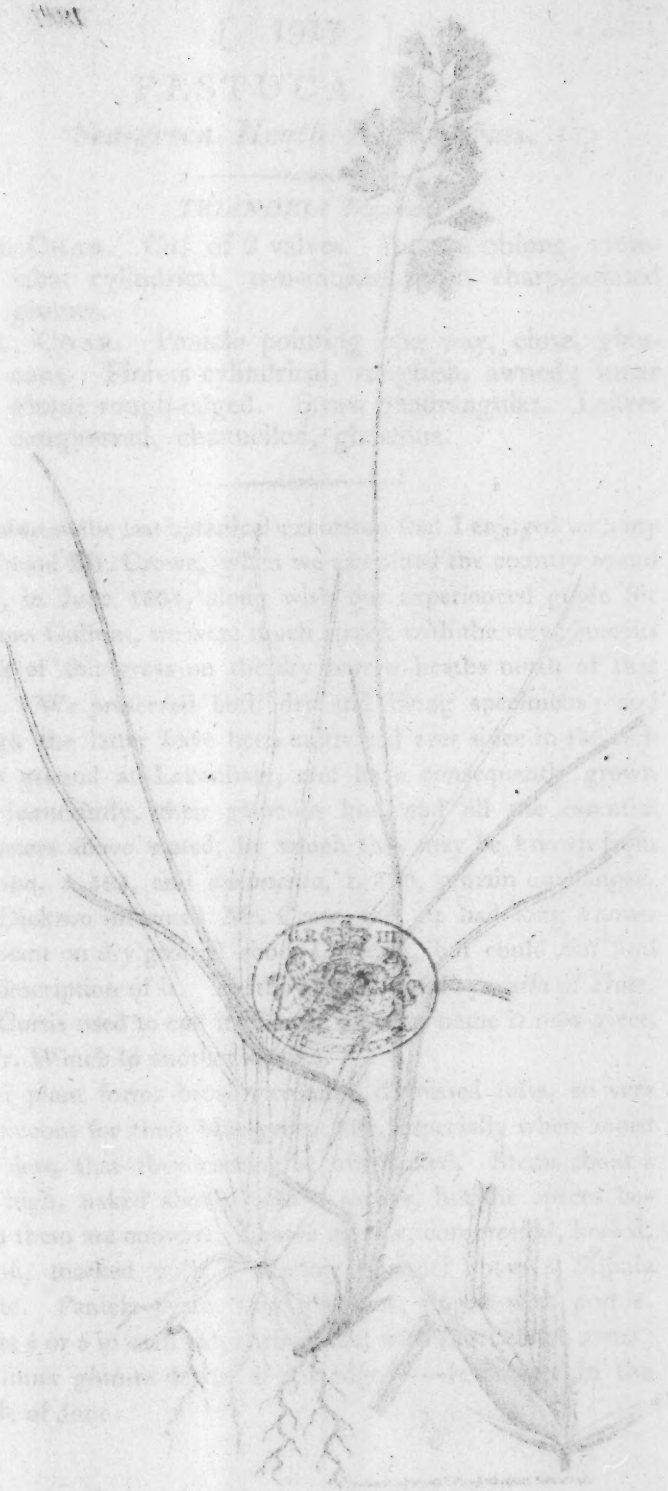
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

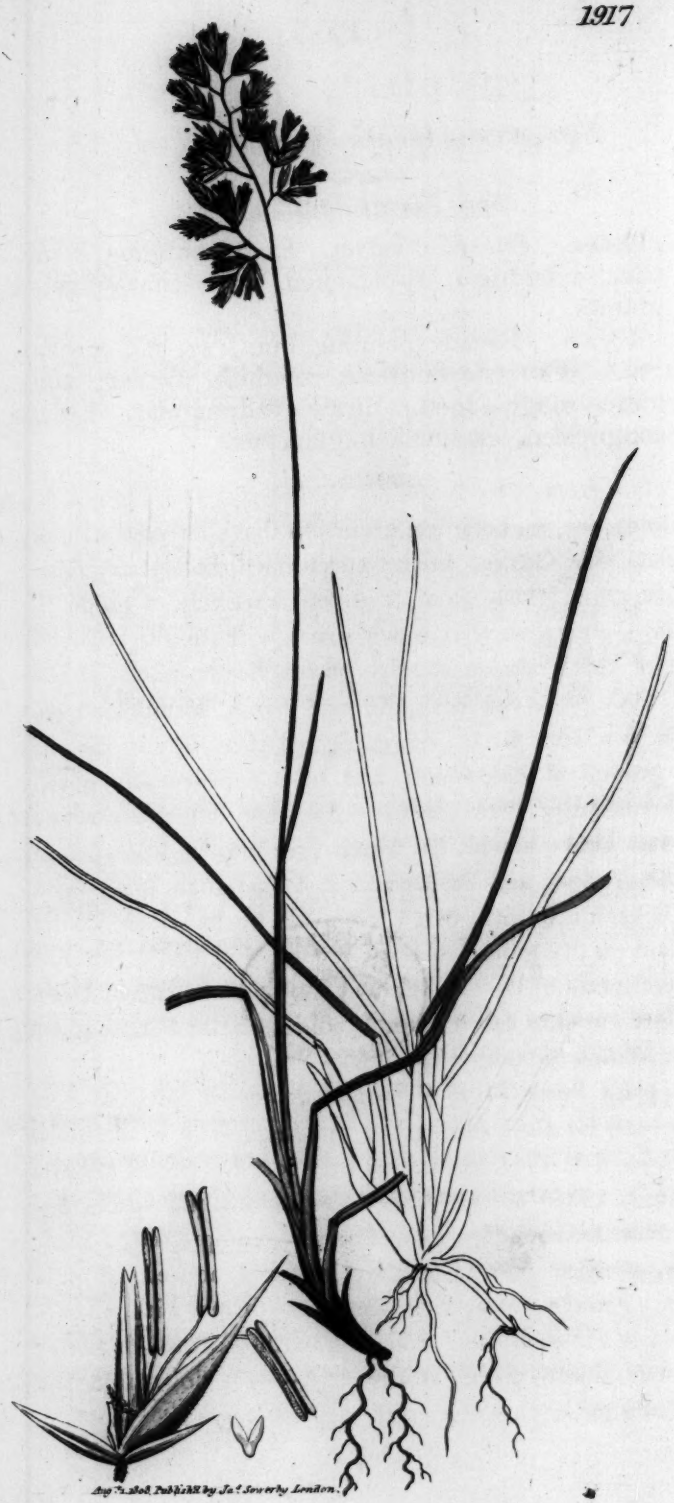
SPEC. CHAR. Red, much branched. Main stems thick, naked, without evident joints. Branches compound, tufted, somewhat whorled; their ultimate segments alternate. Joints as broad as long. Capsules sessile, globose.

SYN. Conferva Arbuscula. *Dillw. Conf. t. 85.*

FOR this also we are indebted to Miss Hutchins, who sent it from Bantry bay to Mr. Turner, and the specimens are the more interesting for being in fruit, which Mr. Dillwyn, the only author who has published this species, seems not to have known. Mr. R. Brown, Librarian to the Linnæan Society, appears to have first found this *Conferva*, and the name was of his choice.

This name well expresses the little tree-like form of the plant with its remarkably thick stem and main branches, in which all traces of joints are obliterated. The subordinate branches are doubly compound, somewhat whorled in the first instance, their ultimate divisions alternate and distant; but the whole together constitute dense tufts of a pale brownish red, whose joints are evident, each about as long as broad. Capsules axillary, sessile, globular, dark red.





Aug.st 1808. Published by Jas. Sowerby London.

FESTUCA cæsia.

Sea-green Heath Fescue-grass.

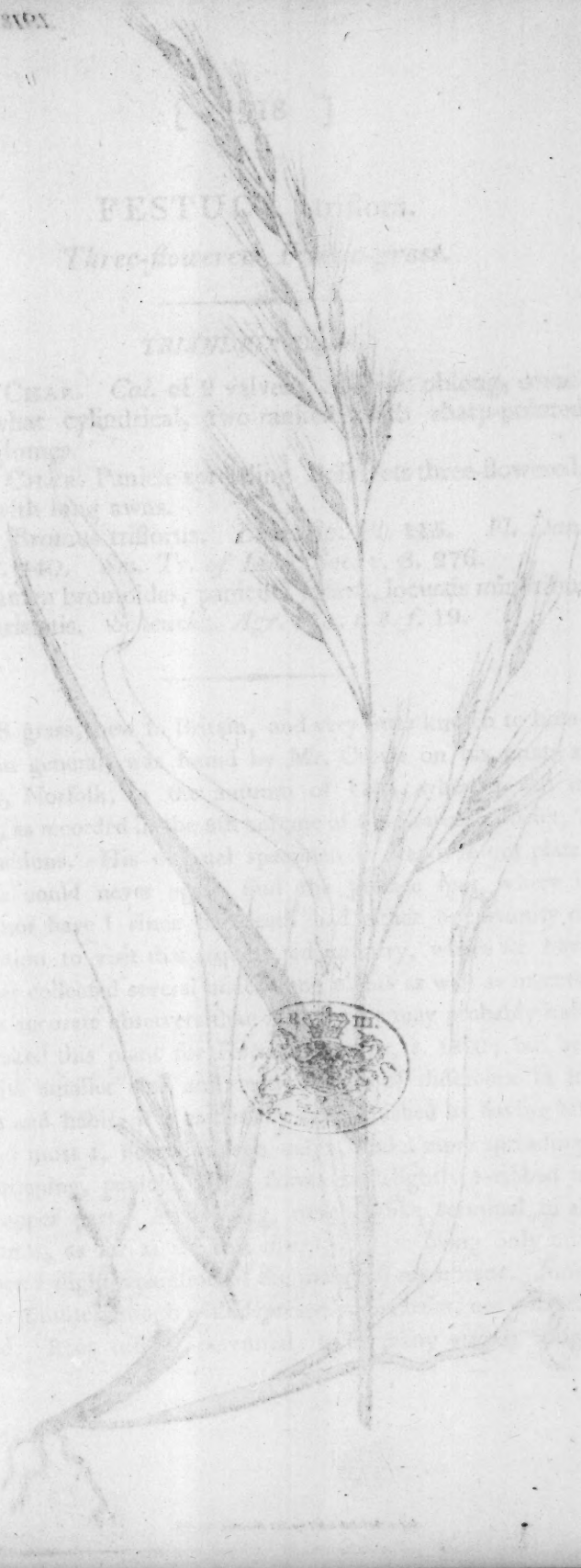
TRIANDRIA Digynia.

GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, two-ranked, with sharp-pointed glumes.

SPEC. CHAR. Panicle pointing one way, close, glaucous. Florets cylindrical, roughish, awned; inner glume rough-edged. Straw quadrangular. Leaves compressed, channelled, glaucous.

IN almost the last botanical excursion that I enjoyed with my late friend Mr. Crowe, when we examined the country round Bury, in June 1804, along with our experienced guide Sir Thomas Cullum, we were much struck with the very glaucous aspect of this grass on the dry barren heaths north of that town. We preserved both dry and living specimens; and though the latter have been cultivated ever since in the rich moist ground at Lakenham, and have consequently grown very luxuriantly, their glaucous hue, and all the essential characters above stated, by which they may be known from *F. ovina*, *t.* 585, and *duriuscula*, *t.* 470, remain unchanged. Mr. Dickson informed Mr. Crowe that he had long known this plant on dry ground about Croydon, but could not find any description of it. He thought it near *F. pumila* of Host. Mr. Curtis used to call it *glauca*, but that name is now given by Mr. Winch to another species.

Our plant forms broad perennial depressed tufts, so very conspicuous for their blue-green hue, especially when moist with dew, that they cannot be overlooked. Stems about a span high, naked above, with 4 angles, but the spaces between them are convex. Leaves narrow, compressed, keeled, smooth, marked with a shallow channel above. Stipula minute. Panicle ovate, very glaucous, tinged with purple. Florets 4 or 5 in each calyx, roughish, with short rough awns; their inner glumes downy at the edge.——It flowers in the middle of June.



Aug. 1. 1808. Publish'd by Jas. Sowerby, London.

FESTUCA triflora.

Three-flowered Fescue-grass.

TRIANDRIA Digynia.

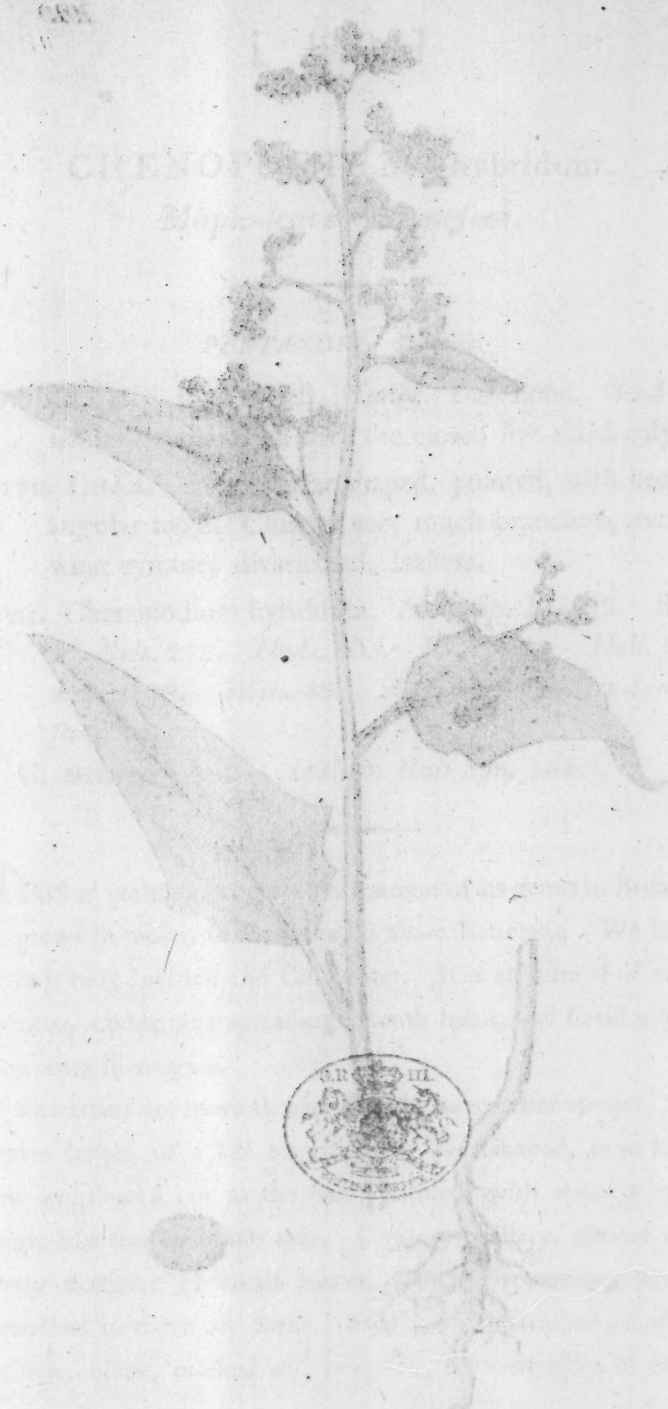
GEN. CHAR. *Cal.* of 2 valves. *Spikelet* oblong, somewhat cylindrical, two-ranked, with sharp-pointed glumes.

SPEC. CHAR. Panicle spreading. Spikelets three-flowered, with long awns.

SYN. Bromus triflorus. *Linn. Sp. Pl.* 115. *Fl. Dan. t.* 440. *Sm. Tr. of Linn. Soc. v.* 8. 276.
Gramen bromoides, paniculâ sparsâ, locustis minoribus aristatis. *Scheuchz. Agr.* 511. *t.* 5. *f.* 19.

THIS grass, new to Britain, and very little known to botanists in general, was found by Mr. Crowe on his estate at Saham, Norfolk, in the autumn of 1804, when it was in flower, as recorded in the 8th volume of the Linnæan Society's Transactions. His original specimen is drawn in our plate, but he could never again find the precise spot where it grew, nor have I since his death had either opportunity or inclination to visit that sequestered country, where we have together collected several uncommon plants as well as insects.

Less accurate observers than Mr. Crowe may probably have overlooked this plant for *Festuca gigantea, t.* 1820; but besides its smaller size and many shades of difference in its stipula and habit, it is essentially distinguished by having but 3, or at most 4, florets in each calyx, and a more spreading, less drooping, panicle. The florets are slightly 5-ribbed in their upper part. Awns long, rough, alike terminal in all the florets, as far as we can discern, there being only now and then a slight separation of the marginal membrane. Inner glumes minutely rough with depressed short hairs, not coarsely fringed. Root tufted, perennial, with many strong rough fibres.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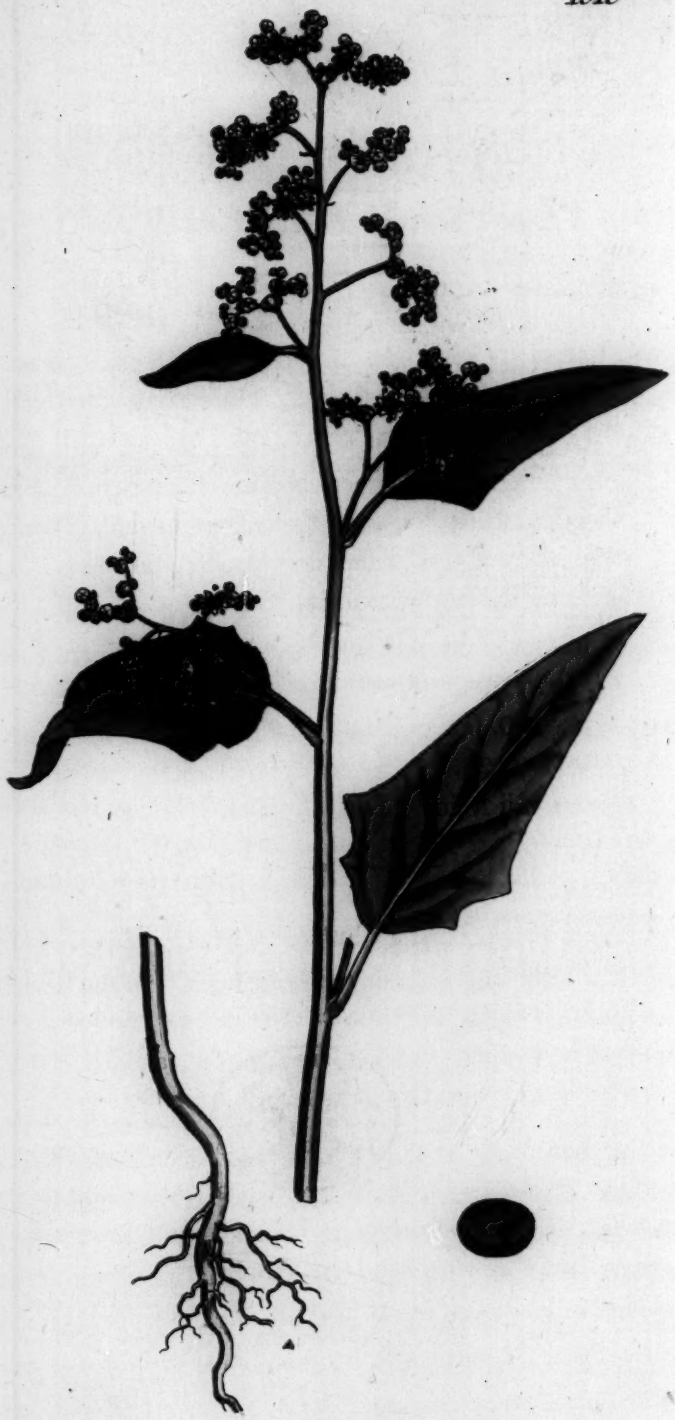


Aug.1.1808. Published by Ja.s Sowerby, London.

CHENOPODIUM hybridum.

Maple-leaved Goosefoot.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* 5-cleft, inferior. *Cor.* none. *Seed* 1, lenticular, invested with the closed five-sided calyx.

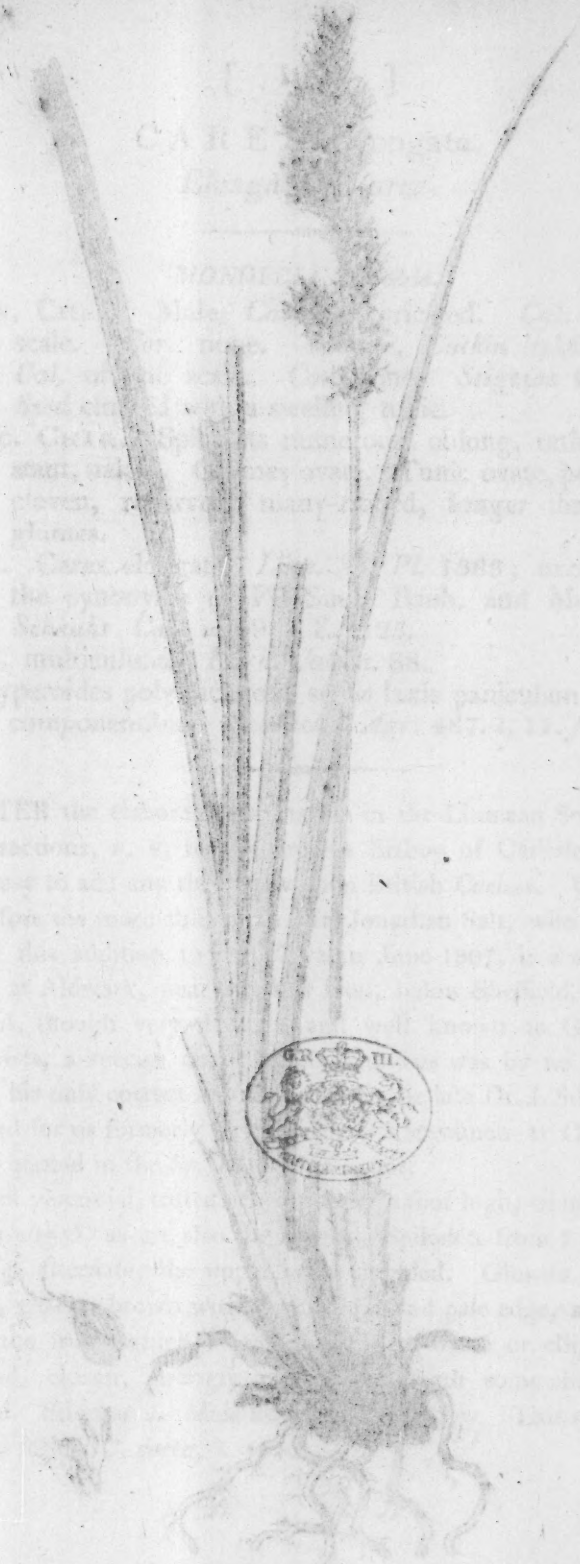
SPEC. CHAR. Leaves heartshaped, pointed, with broad angular teeth. Clusters very much branched, somewhat cymose, divaricated, leafless.

SYN. Chenopodium hybridum. *Linn. Sp. Pl.* 319. *Sm. Fl. Brit.* 275. *Huds.* 105. *With.* 272. *Hull.* 56. *Relh.* 100. *Sibth.* 89. *Abbot.* 55. *Curt. Lond. fasc.* 4. *t.* 23.

C. stramonii folio. *Dill. in Raii Syn.* 154.

THIS is perhaps the most uncommon of its genus in Britain. It grows in moist, fertile spots, as about Battersea. We have seen it near Ipswich and Colchester. It is an annual of rank growth, a branching spreading smooth habit, and fœtid scent, flowering in August.

The stems are more slender than in most other species, the leaves larger, of a full bright green, heartshaped, or at least not lengthened out at the base, pointed, with about 3 large angle-like teeth on each side. Clusters axillary, almost entirely destitute of small leaves, slender, spreading, much branched in a cymose form. Seeds, when stripped of their pellicle, black, marked with irregular, large wrinkles or dots.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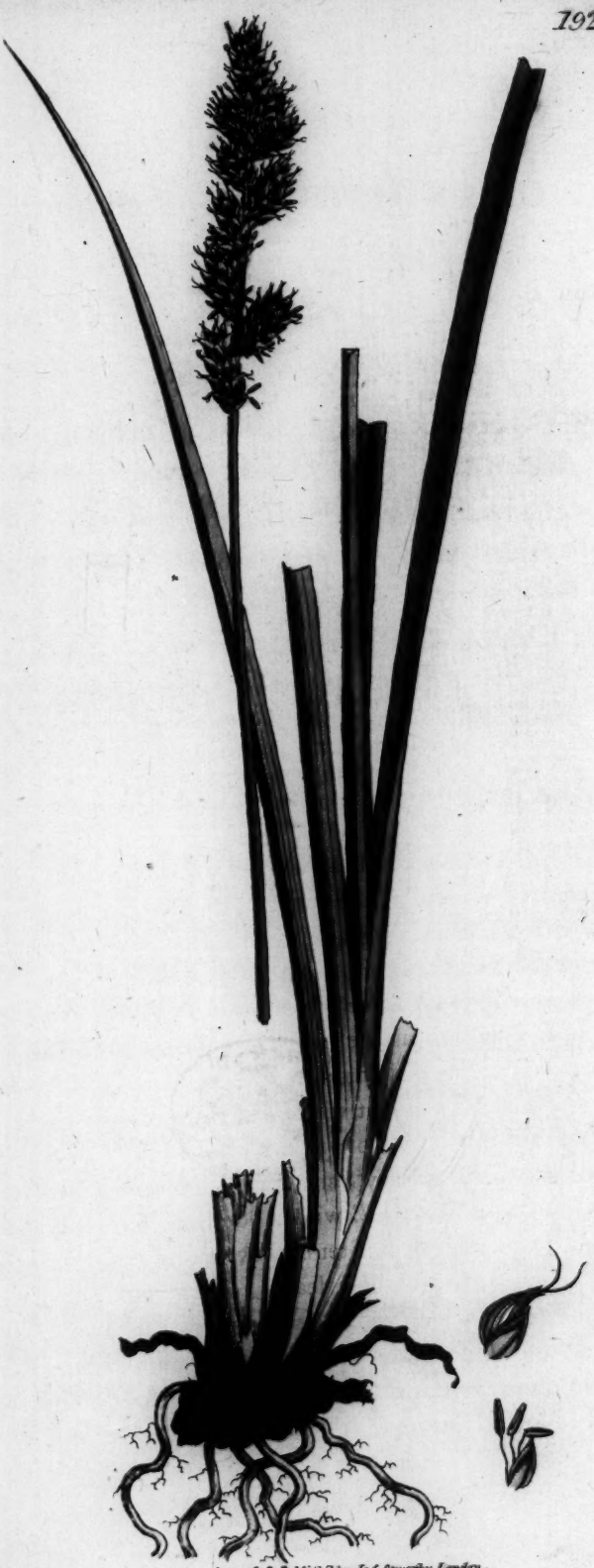


Aug. 1.1808. Published by Ja.s Sowerby London.

CAREX elongata.
Elongated Carex.

MONOECIA Triandria.

GEN. CHAR. Male, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. Female, *Catkin* imbricated. *Cal.* of one scale. *Cor.* none. *Stigmas* 2 or 3. *Seed* clothed with a swelling tunic.

SPEC. CHAR. Spikelets numerous, oblong, rather distant, naked. Glumes ovate. Tunic ovate, pointed, cloven, recurved, many-ribbed, longer than the glumes.

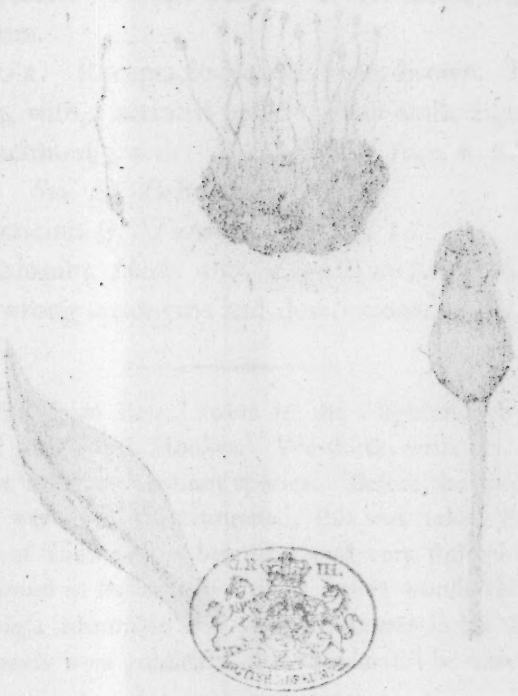
SYN. Carex elongata. *Linn. Sp. Pl.* 1383; excluding the synonyms of Fl. Suec. Bauh. and Morison. *Schkuhr. Car. n.* 39. *t.* E. *f.* 25.

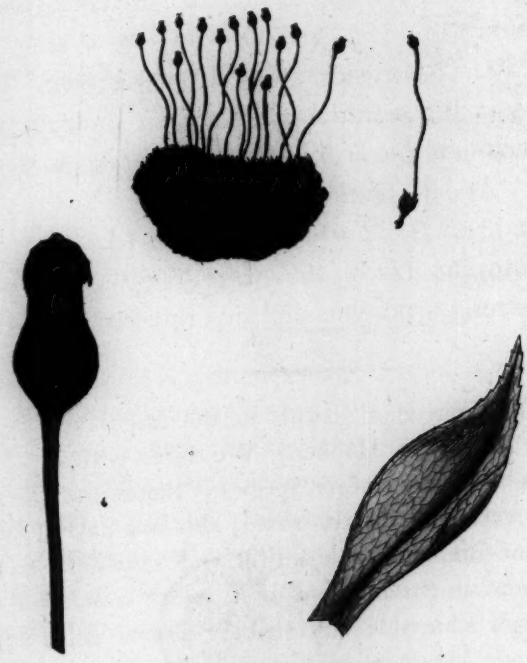
C. multiculmis. *Ehrh. Calam.* 88.

Cyperoides polystachyon, spicis laxis paniculam veluti componentibus. *Scheuchz. Agr.* 487. *t.* 11. *f.* 4.

AFTER the elaborate dissertation in the Linnæan Society's Transactions, *v.* 2, by the present Bishop of Carlisle, it is not easy to add any thing new upon British *Carices*. We are therefore the more obliged to Mr. Jonathan Salt, who discovered this addition to our Flora in June 1807, in a marshy place at Aldwark, near the river Don, below Sheffield. It is indeed, though very distinct, and well known to German botanists, a species about which Linnæus was by no means clear, his only correct synonym, which the late Dr. J. Sibthorp verified for us formerly by Scheuchzer's specimen at Oxford, being quoted in the *Sp. Pl.* with a doubt.

Root perennial, tufted. Stems above a foot high, triangular, rough-edged, as are also the leaves. Spikelets from 7 to 14, oblong, alternate, the upper ones crowded. Glumes ovate, acute, glossy, brown with a green rib and pale edge, shorter than the fruit, which is copious, green, ovate or elliptical, pointed, cloven, strongly ribbed, at length somewhat recurved. Stigmas 2. Male flowers inferior, few. This species should follow *C. curta*, *t.* 1386.





Aug 1 1828 Published by Jas. Sowerby, London.

SPLACHNUM gracile.

Zigzag Gland-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* cylindrical, placed on a fleshy *receptacle*. *Fringe* simple, of 16 teeth, standing in pairs.

SPEC. CHAR. Receptacle globose, rusty-brown. Leaves ovate, with a serrated point. Fruit-stalk zigzag.

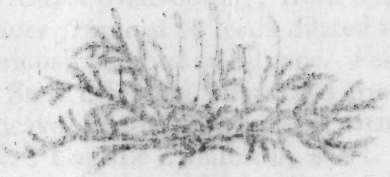
SYN. Splachnum gracile. *Dicks. Crypt. fasc.* 4. 3. *t.* 10. *f.* 5. *Sm. Fl. Brit.* 1174.

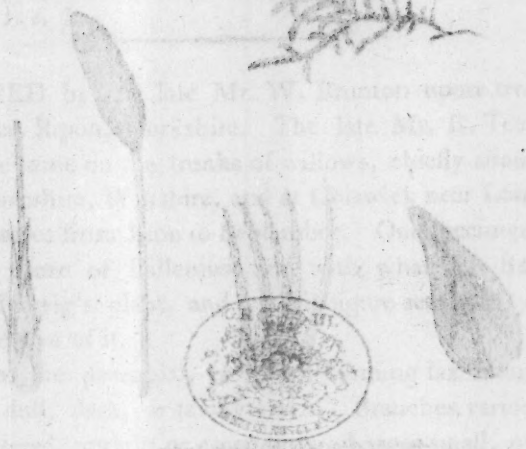
S. sphæricum β. *Turn. Musc. Hib.* 15.

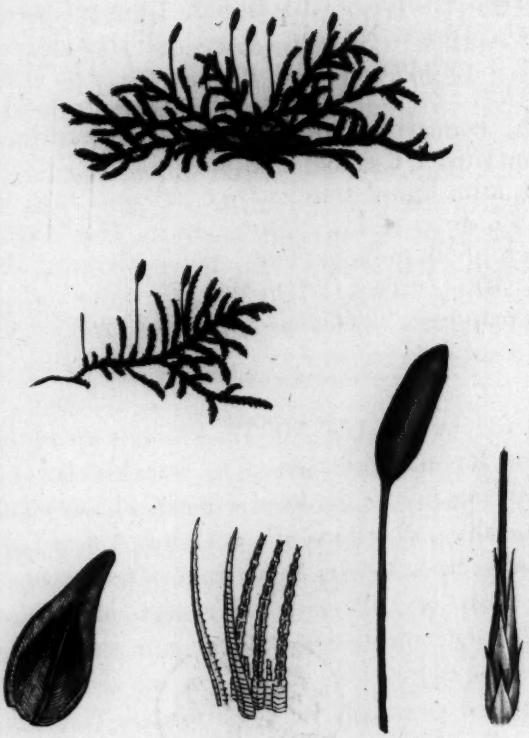
S. vasculosum. *Huds.* 469. *Lightf.* 697. *With.* 791, with wrong synonyms and descriptions. *Hull.* 245.

BROUGHT from Ben Lawers in the Highlands by Mr. Turner and Mr. W. J. Hooker. We think, with Mr. Dickson, that it is a very distinct species. Before the species of *Splachnum* were well discriminated, this was taken for the *vasculosum* of Linnæus, a beautiful and very different one, never yet found in Britain; but it is rather wonderful that, after Hedwig's admirable and striking figures in his 2d vol. of *Cryptogamia* were published, this should still be misunderstood.

It grows generally on cow-dung, on wet alpine bogs or moors, being annual, of quick growth, and found in perfection about July. It is generally much smaller than *S. sphæricum*, *t.* 785. Stems very short. Leaves ovate, broad, entire except at the point, which is elongated and serrated. Fruit-stalks an inch or more in height, much bent or zigzag, of a tawny orange. Receptacle (or pedestal) globose, of a red rusty brown, smooth. Capsule paler and shorter, its teeth usually lasting, reflexed. Lid hemispherical, with a very blunt point.







Aug. 1. 1808. Published by Jas. Sowerby. London.

HYPNUM inundatum.

Marsh Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* ovate-oblong, from a lateral scaly sheath. *Outer fringe* of 16 teeth, dilated at the base: *inner* a variously-toothed membrane. *Veil* smooth.

SPEC. CHAR. Stem creeping. Branches erect. Leaves ovate, concave, single-ribbed, somewhat inclining to one side. Capsule cylindrical, erect.

SYN. Hypnum inundatum. *Dicks. Crypt. fasc.* 4. 17. *Sm. Fl. Brit.* 1281. *Turn. Musc. Hib.* 143.
H. heterophyllum aquaticum, polycephalum, repens. *Dill. Musc.* 293. *t.* 37. *f.* 27, B.
Leskea paludosa. *Hedw. Sp. Musc.* 221. *Crypt. v.* 4. 1. *t.* 1.

GATHERED by the late Mr. W. Brunton upon trees in rivulets near Ripon, Yorkshire. The late Mr. R. Teesdale observed the same on the trunks of willows, chiefly about the roots, in Yorkshire, Wiltshire, and at Chiswick near London, bearing capsules from June to September. Our specimens all agree with those of Dillenius, and with what Dr. Swartz sends as Hedwig's plant, and yet his figure seems not altogether expressive of it.

The stems are perennial, creeping, forming lax entangled tufts, of a dull, dark, or tawny green. Branches various in length, scattered, upright or ascending. Leaves small, ovate, entire, concave, bluntish, loosely imbricated, inclined toward one side, each marked with a fine rib, most visible when dry, in which state the rib projects. Sheaths pale, yellowish or tawny, their leaves lanceolate, acute, without ribs, but when dry so plaited as to seem ribbed. Fruitstalks slender, not an inch high. Capsule erect, cylindrical, slender, pale yellowish brown, smooth. Lid conical, short, blunt, reddish.

Aug.1.1808. Published by Jas. Sowerby, London.

LICHEN argenus.

Silvery Leprous Lichen.

CRYPTOGAMIA Algæ.

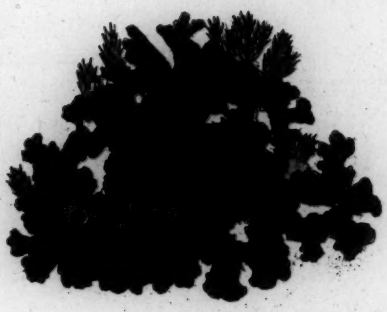
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

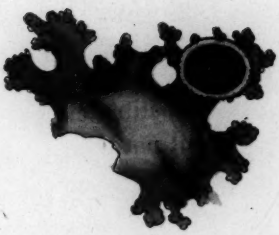
SPEC. CHAR. Crust leprous, powdery, silvery-white. Shields pale grey, flat, with a tumid white margin.

SYN. Lichen argenus. *Ach. Prod.* 8.
L. farinosus. *Hoffm. Enum.* 8. *t.* 1. *f.* 1.
Lecidea argena. *Ach. Meth.* 74.
Verrucaria farinosa. *Hoffm. Germ.* v. 2. 171.

FOUND on the rugged barks of old trees by Mr. W. Borrer, whose specimens accord exactly with the authentic one sent by Professor Acharius. It is very remarkable that the latter abounds with shields, overlooked by our learned friend who sent it, and which prove the plant a *Parmelia* according to his system, not a *Lecidea* as he made it on Hoffmann's authority.

No English writer has hitherto noticed this species. Its crust forms broadish, rugged, mealy patches, of a greyish or silvery white, with an edge fibrous at first, then smooth, even, and greenish or olive-coloured. Shields scattered, sessile or somewhat immersed, small; their disk flat, pale grey or lead-coloured; their border tumid, even or slightly rugged, of the hue and substance of the crust.





Sept. 1.1808. Published by Jas. Sowerby, London.

LICHEN marginalis.

Marginal Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

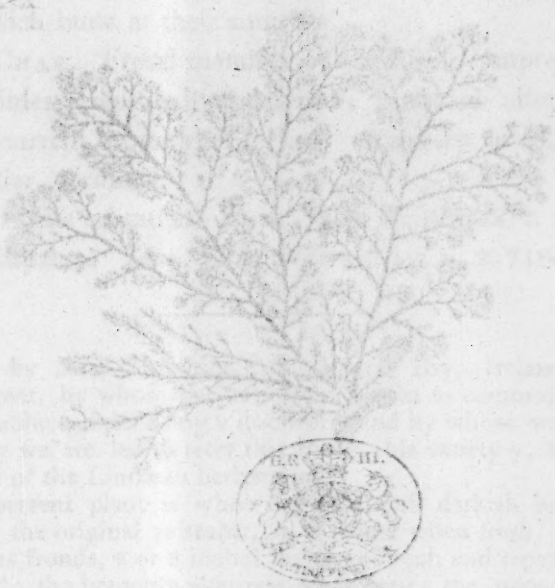
SPEC. CHAR. Gelatinous, imbricated, olive-black; its lobes linear, parallel, zigzag, channelled, crisped, crenate, branched, smooth. Shields marginal, dark reddish brown, with an entire border.

SYN. Lichen marginalis. *Huds.* 534. *Ach. Prod.* 127. *With. v.* 4. 34. *Hull.* 295.
Lichenoides gelatinosum fuscum, jacobææ maritimæ divisurâ. *Dill. Musc.* 140. *t.* 19. *f.* 25.
Parmelia melæna β. *Ach. Meth.* 241.

WE have this from Mr. Hudson's herbarium, with his authentic name, as well as from Derbyshire and the Highlands of Scotland. The specimen in our plate was gathered on stone walls near Settle, Yorkshire. It grows in broad patches on calcareous stones, in rather moist places, often accompanied with mosses.

The fronds spread in a radiating circular manner, and are membranous, gelatinous, but not fleshy, of a dull olive black, darker when dry, their under or lower parts much paler than such as are more prominent. The lobes are crowded, branched, linear, parallel, channelled, zigzag, much cut and crisped, crenate, smooth, not granulated. Shields situated for the most part about the margins of the fronds, slightly elevated, horizontal, flat, dark reddish brown, with a prominent, entire, by age somewhat jagged, border, of the substance of the leaf.

L. melænus of Acharius seems scarcely even a variety of this.



Sept. 1. 1808. Published by Jas. Sowerby, London.

FUCUS cristatus.

Crested Tufted Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

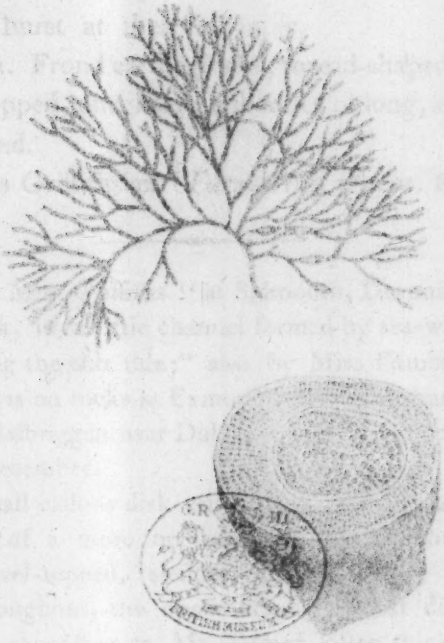
SPEC. CHAR. Frond membranous, reddish, compressed, veinless, repeatedly branched; branches alternate, decurrent, somewhat forked. Capsules small, globular, terminal.

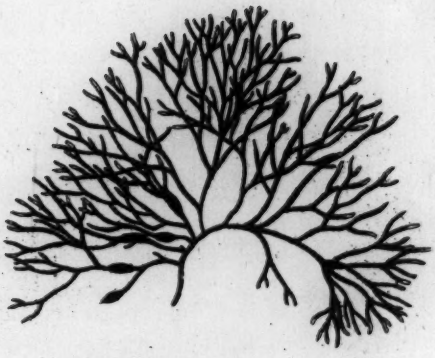
SYN. Fucus cristatus. *Turn. Hist. Fucor.* 48. *t.* 23.
F. crispatus. *Linn. Syst. Nat. ed.* 12. *v.* 2. 718.

SENT by Miss Hutchins from Bantry Bay, Ireland, to Mr. Turner, by whose persuasion we hasten to communicate to the public so interesting a discovery, and by whose weighty authority we are led to refer this *Fucus*, his variety γ, to the *cristatus* of the Linnæan herbarium.

Our present plant is when dry of a dull darkish brown, but like the original *cristatus*, it is redder when fresh. The numerous fronds, 2 or 3 inches high, are much and repeatedly branched; the branches alternate, decurrent; the uppermost forked and acute. The whole is compressed, but not flat, tubular within, and seeming to be composed of short transverse furrowed joints, in the manner of *Conferva nigrescens*, *t.* 1717, and others. Mr. Turner indeed observes that "too much confidence is not to be placed in these joints," and that they are sometimes wanting, or we should have referred our plant at once to *Conferva*. Its fruit is unknown.

With respect to *Fucus cristatus* in its usual form, as figured by Mr. Turner from the Linnæan herbarium, its name is there so written as to look like *crispatus*, and was so transcribed and published by Linnæus himself, nor can any thing be more apposite than his account of it in his *Systema;* but Murray, from total ignorance and inattention in compiling his editions of *Syst. Veg.*, quotes *crispatus* of *Fl. Dan. t.* 826; and the *F. crispatus* of Wulfen in *Jacq. Coll. v.* 3. is still a different species from both.





Sept.1 1808. Published by Ja.s Sowerby, London.

FUCUS Griffithsiæ.

Griffithsian Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

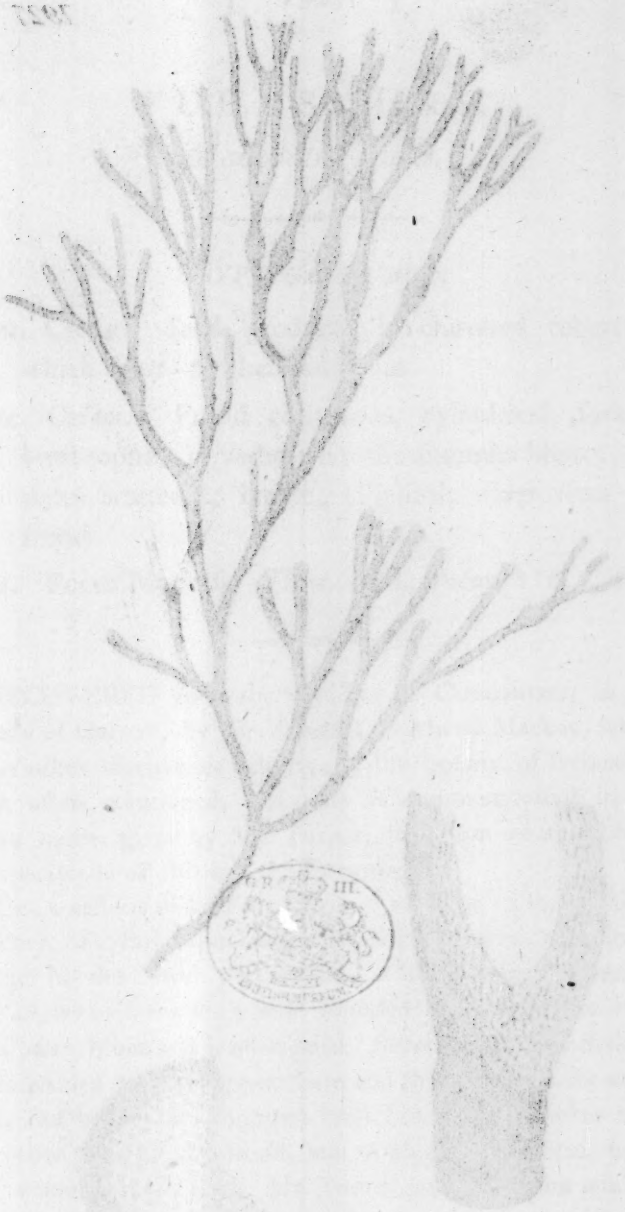
SPEC. CHAR. Frond cartilaginous, thread-shaped, forked, level-topped, purplish. Tubercles oblong, encircling the frond.

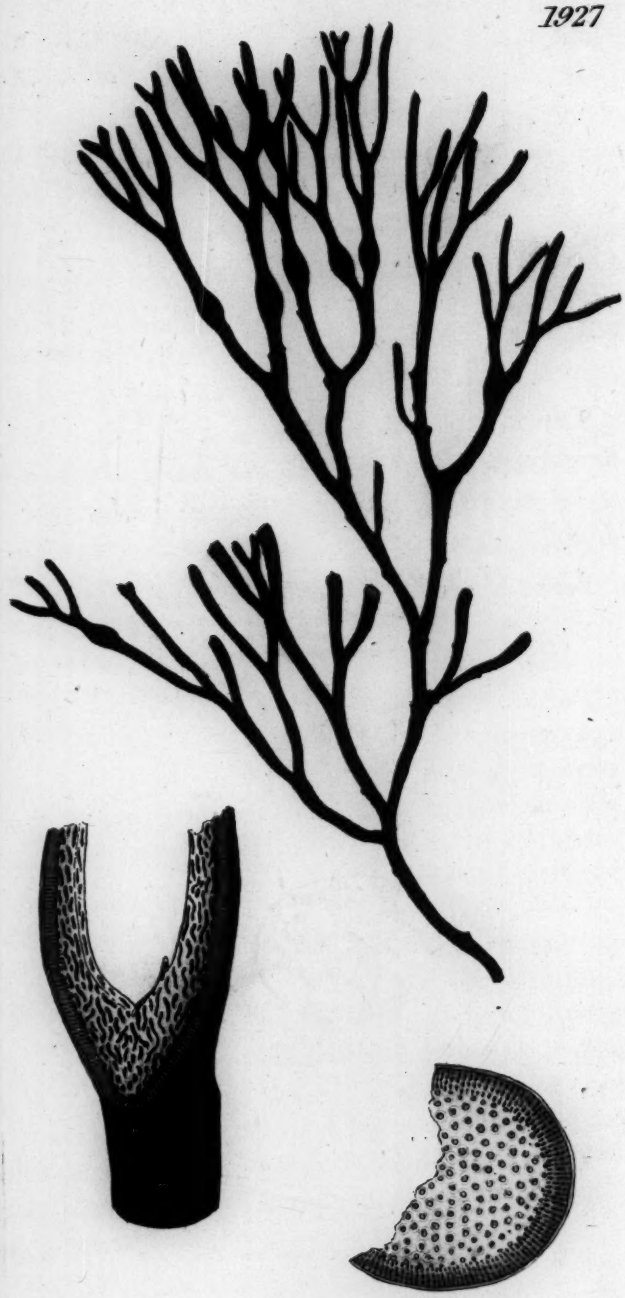
SYN. Fucus Griffithsiæ. *Turn. Hist. Fucor.* 80. *t.* 37.

FOUND by Mrs. Griffiths "at Sidmouth, Devonshire, near the Chit rock, in a little channel formed by sea-water, as it runs off during the ebb tide;" also by Miss Filmore and the Rev. Mr. Jervis on rocks at Exmouth. Dr. Scott has observed the same at Balbriggen near Dublin. It is in perfection from October to December.

From a small callous disk arise several fronds, each 2 or 3 inches high, of a more or less deep purplish hue, much branched, level-topped, slender, thread-shaped, of equal thickness throughout, the upper branches most divaricated, the summits, according to Mr. Turner, often thickened and compressed. The fructification embraces the branches here and there in the form of dark oblong or elliptical tumid warts or tubercles, in which, when cut transversely and examined with a glass, are found innumerable horizontal, radiating, jointed filaments, among which the seeds are presumed to be lodged.

The mode of fructification, so different from all the *Fuci* previously known, clearly distinguishes this species. We have, with Mr. Turner's advice and concurrence, corrected the termination of the specific name so as best to suit the lady whom it commemorates.





Sept. 1st 1828. Published by Jas. Sowerby London.

FUCUS Mackaii.

Mackaian Fucus.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced in clustered tubercles, which burst at their summits.

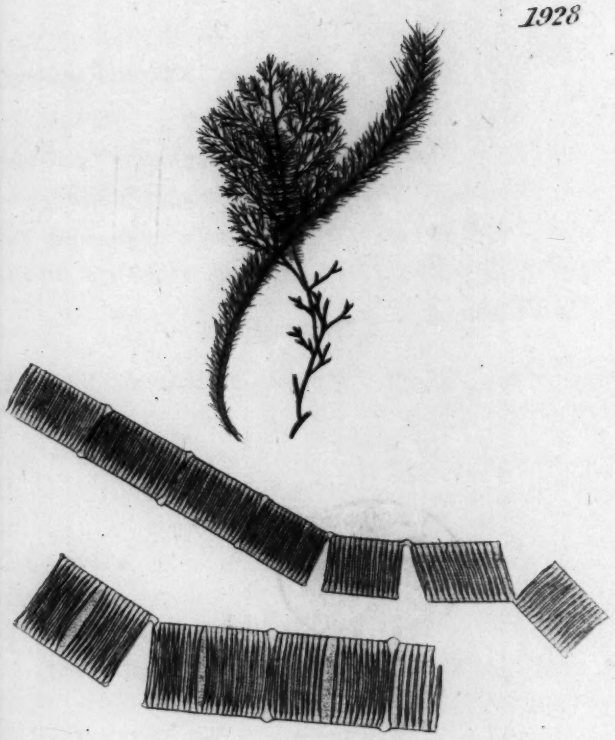
SPEC. CHAR. Frond coriaceous, cylindrical, forked, level-topped, olive-brown; the summits blunt: vesicles scattered, innate, elliptical, wider than the frond.

SYN. Fucus Mackaii. *Turn. Hist. Fucor.* 116. *t.* 52.

DISCOVERED in a sheltered bay at Cunnamara, in the county of Galway, by Mr. James Townshend Mackay, whose many other discoveries relative to the botany of Ireland we have often mentioned, and who is commemorated in the above name, given by Mr. Turner, to whom we are obliged for specimens of this and the foregoing.

Root a callous disk. Frond from 6 to 10 or 12 inches high, leathery, of a dark olive brown, repeatedly forked, cylindrical, except in the lower part, which is somewhat compressed. The angles or forks are a little rounded or patent; the summits paler, blunt and level-topped. Several solitary inflations, or imbedded vesicles, appear here and there towards the upper part, but below the youngest branches, much thicker than the other parts of the frond, and of an elliptical form, being very vascular internally. Mr. Turner presumes from analogy that the fructification, hitherto unknown, may resemble that of *F. nodosus*, *t.* 570, and *canaliculatus*, *t.* 823, to both which the present species is nearly akin.

1928



Sept.1.1806. Published by Jas Sowerby London.

CONFERVA striatula.

Disjointed Streaked Conferva.

CRYPTOGAMIA Algæ.

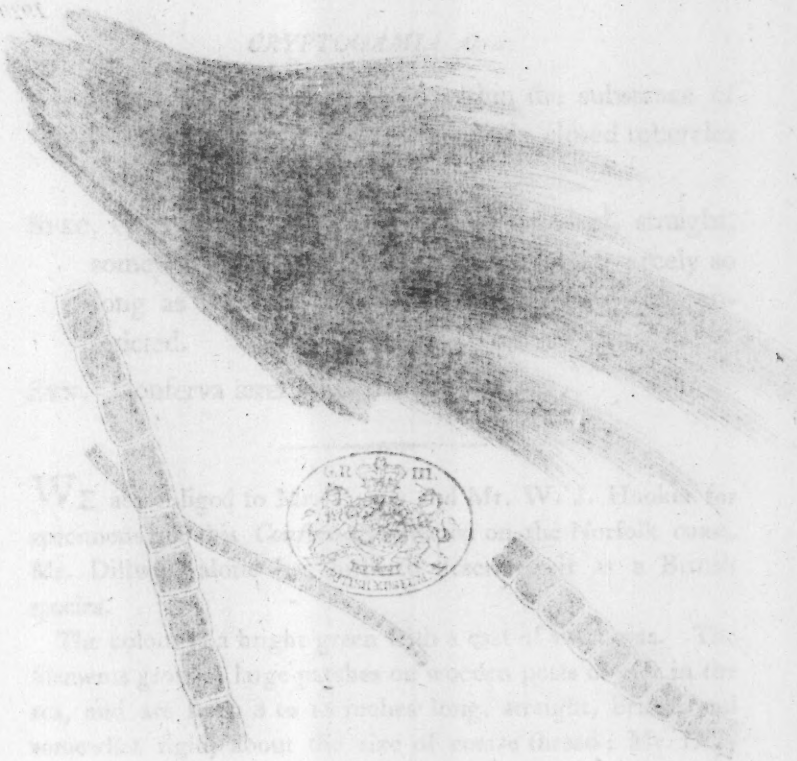
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

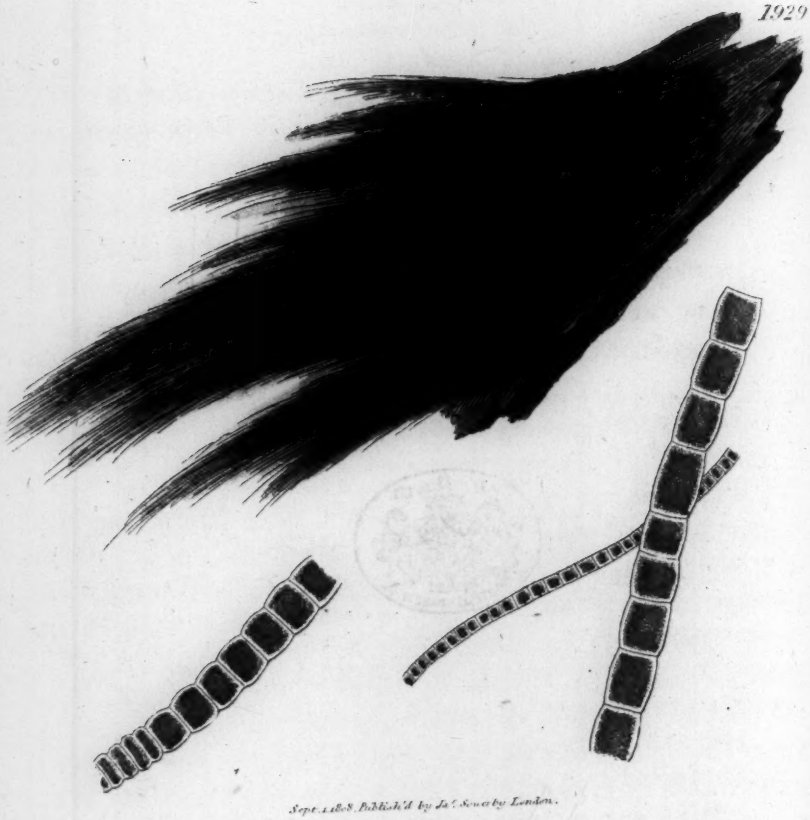
SPEC. CHAR. Pale green. Filaments capillary, simple, compressed. Joints quadrangular, rather broader than long, in pairs, transversely and uninterruptedly striated; at length separating at one edge and divaricated.

OBSERVED growing on *Fuci* and *Confervæ* at Cromer by Mr. W. J. Hooker in April 1808.

The filaments are from one to two lines in height, pale green, whitish when dry, simple, straight, erect, as slender as the finest hair, compressed but not quite flat. Joints rather broader than long, but combined in pairs, each pair, as it appears to us, separating at opposite corners, and every joint streaked transversely with parallel lines, without the longitudinal pellucid line seen in *C. flocculosa*, *t.* 1761.

The same difficulties attend this production, with respect to its vegetable or animal nature, that we have noticed in *C. tæniæformis*, *t.* 1883. They seem intermediate links between both kingdoms, and are the more worthy of notice as their allies the Corallines have excited so much attention, and were so long misunderstood. Their resemblance to the *Tænia* is striking. Were it not for the separation of their joints, they might be suspected to be young *Sertulariæ*; yet the analogy of *C. flocculosa* would ever discountenance such a supposition.





Sept. 1808. Published by J. & C. Sowerby London.

CONFERVA ærea.

Unequal-jointed Verdigrise Conferva.

CRYPTOGAMIA Algæ.

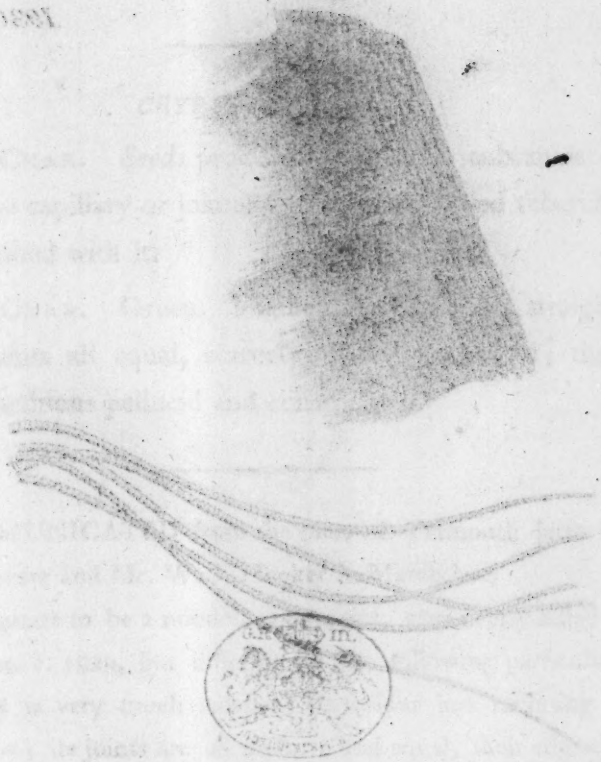
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

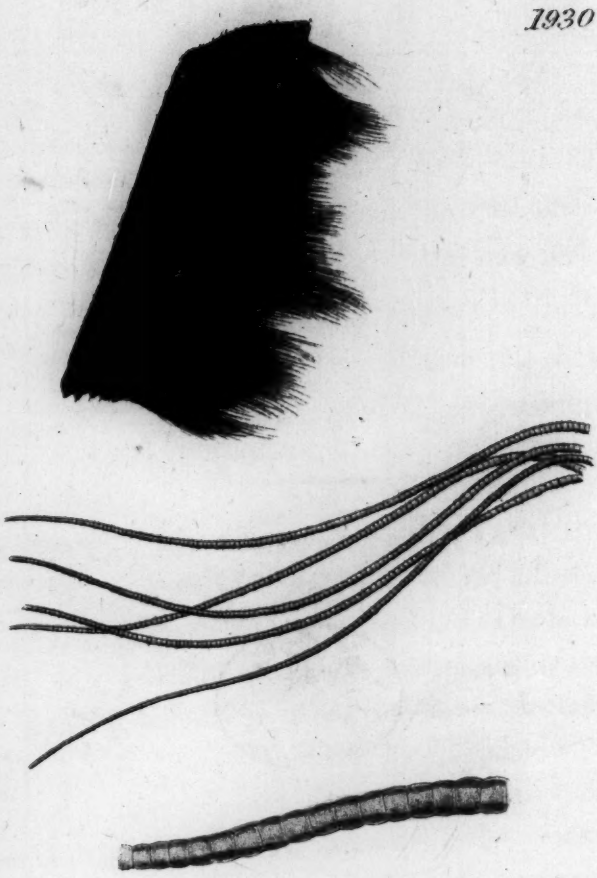
SPEC. CHAR. Green. Filaments unbranched, straight, somewhat rigid. Joints very unequal, scarcely so long as broad; their partitions pellucid and constricted.

SYN. Conferva ærea. *Dillw. Conf. t.* 80.

WE are obliged to Mr. Turner and Mr. W. J. Hooker for specimens of this *Conferva*, collected on the Norfolk coast. Mr. Dillwyn alone has hitherto described it as a British species.

The colour is a bright green with a cast of verdigrise. The filaments grow in large patches on wooden posts or rails in the sea, and are from 3 to 15 inches long, straight, brittle and somewhat rigid, about the size of coarse thread; Mr. Dillwyn has seen them as thick as a crow's quill. They are always unbranched. The joints are seldom or never so long as they are broad, and, as Mr. Dillwyn well observes, "two together often appear, whose united length is precisely the same as that of one of the others, as if they had originally formed only a single joint." The partitions are white and pellucid, and each being a little contracted, the whole frond acquires thence a slightly beaded appearance. Immediately after gathering, this white transparency extends all round each joint.





Sept.r 1.st 1803. Published by Jas. Sowerby London.

CONFERVA isogona.

Equal-jointed Verdigrise Conferva.

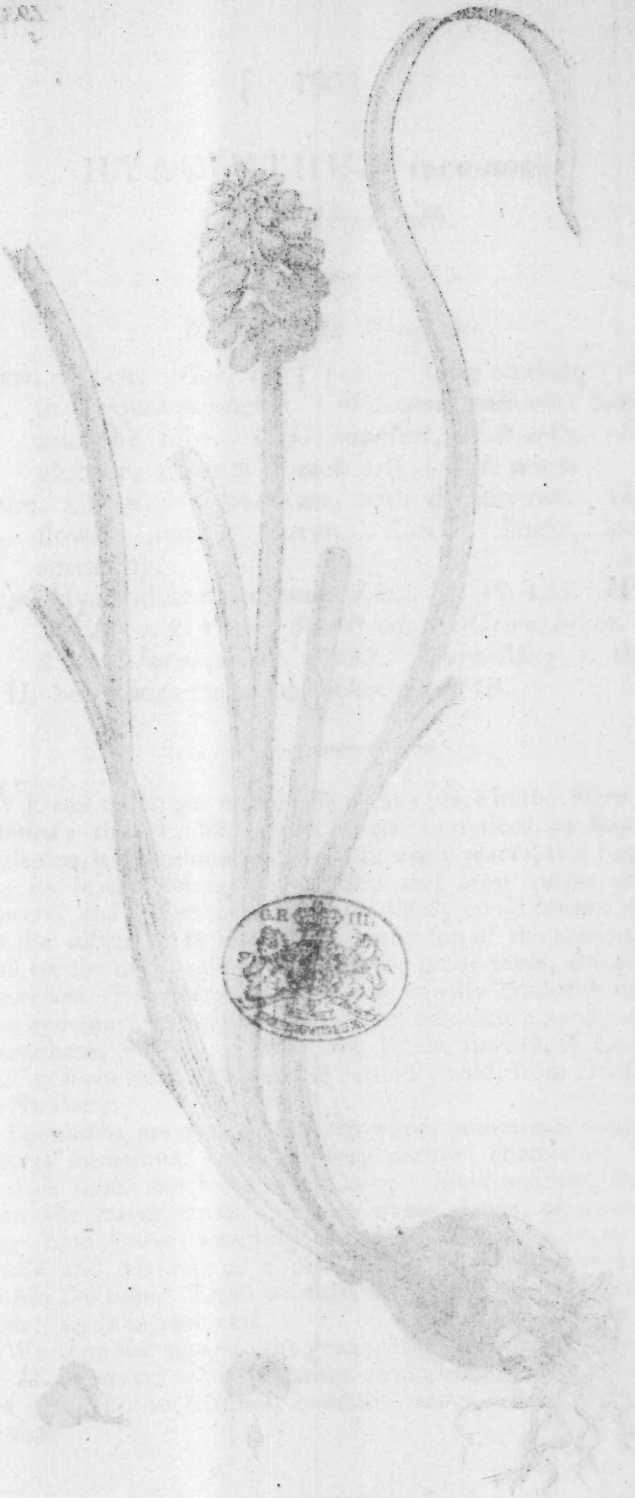
CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Filaments unbranched, straight. Joints all equal, scarcely so long as broad; their partitions pellucid and constricted.

COMMUNICATED from the piers of Yarmouth jetty by Mr. Turner and Mr. W. J. Hooker in March last.

It appears to be a nondescript species, very nearly allied to *C. ærea, t.* 1929, but differing in the following particulars. Its size is very much smaller; its colour less inclining to glaucous; its joints are all uniform and equal, their edges by far less disposed to become pellucid than in *ærea*, and never so but in decay. The interstices are indeed, as in that, colourless very soon after the plant is taken out of the water, and are at all times so constricted as to give a beaded aspect to the filament.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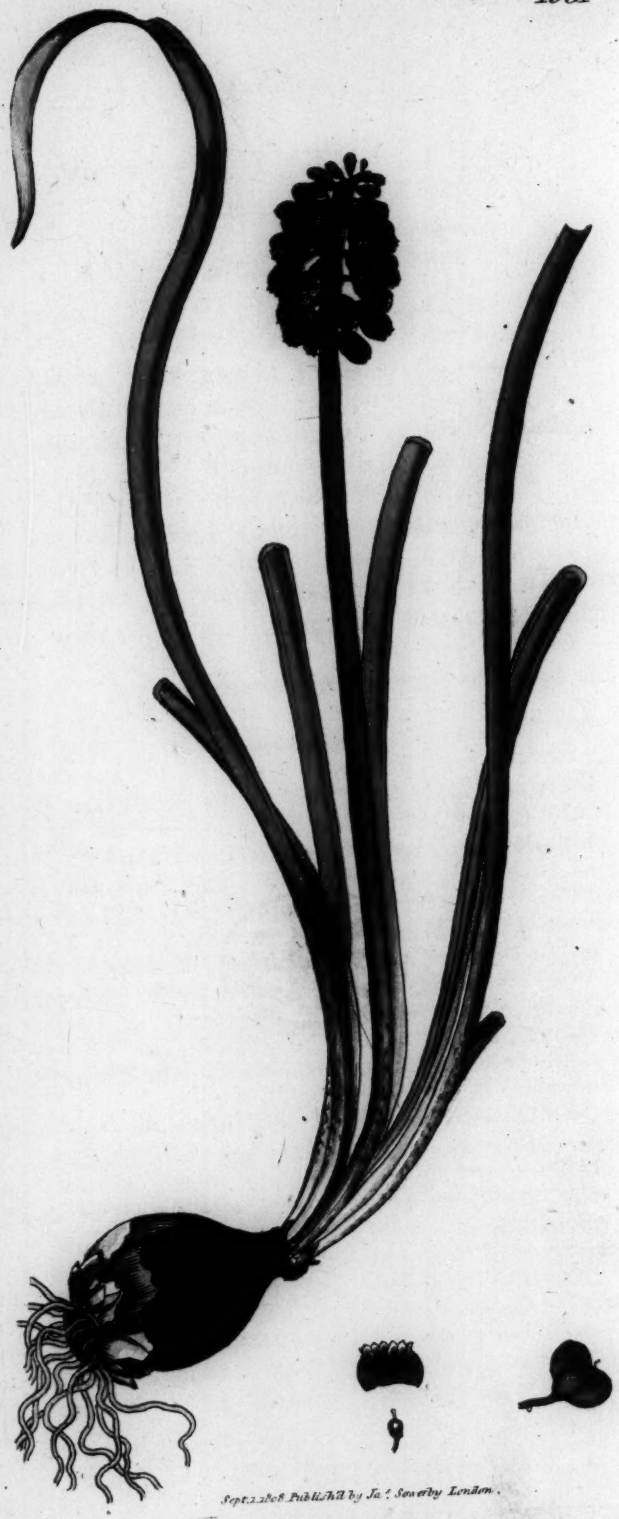


Sept.1.1808 Published by Jas. Sowerby London.

HYACINTHUS racemosus.

Starch Hyacinth.

HEXANDRIA Monogynia.

GEN. CHAR. *Cor.* of 1 petal; tube swelling; limb in 6 equal segments. *Filaments* uniform, inserted into the tube. *Caps.* superior, of 3 cells. *Seeds* globose, about 2 in each cell. *Cal.* none.

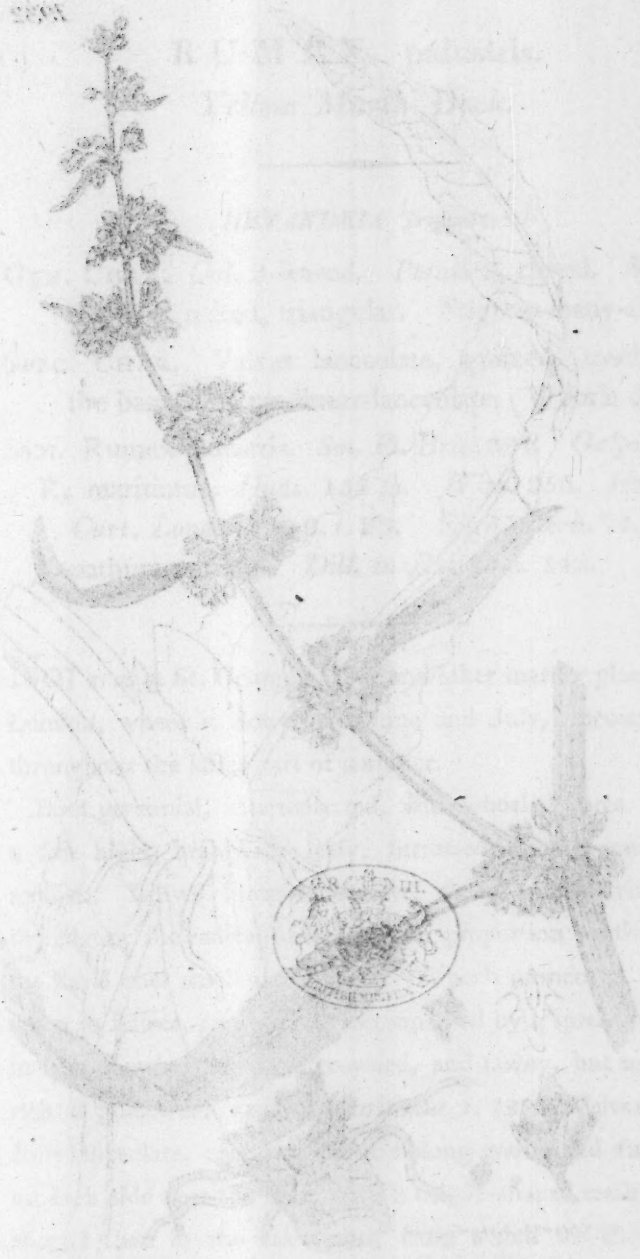
SPEC. CHAR. Tube ovate, with six furrows. Upper flowers sessile, barren. Leaves linear, loosely spreading.

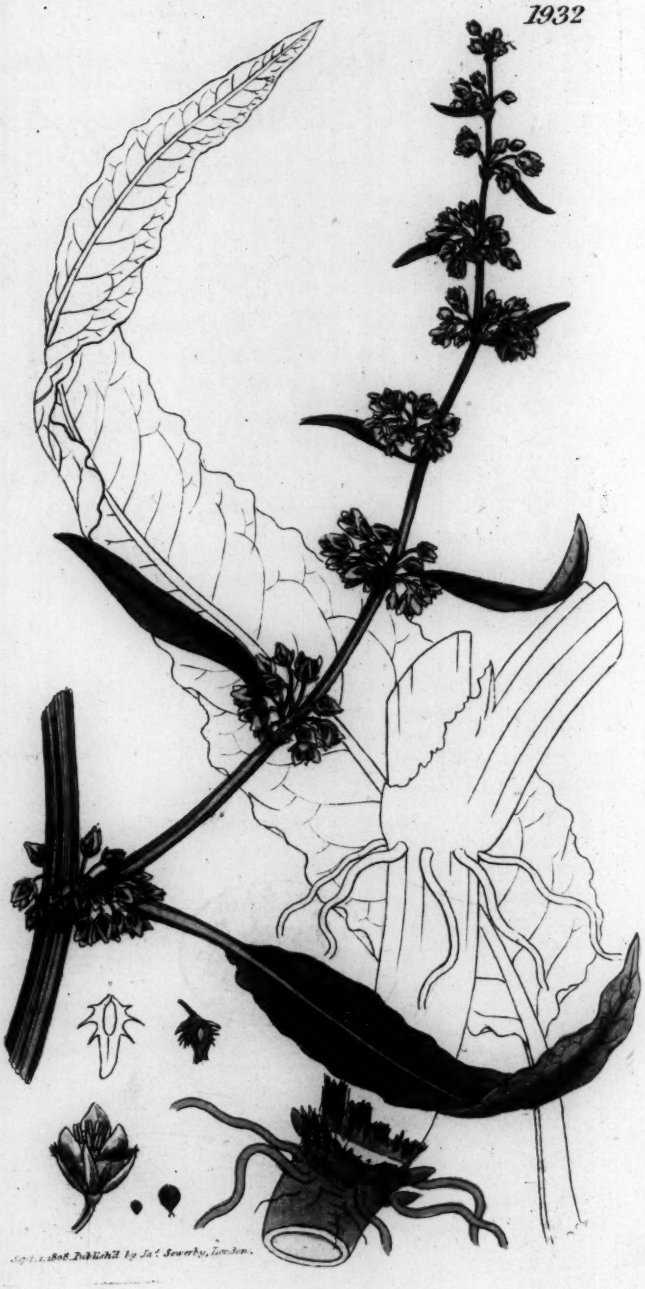
SYN. Hyacinthus racemosus. *Linn. Sp. Pl.* 455. *Willd. Sp. Pl. v.* 2. 170. *Sm. Prod. Fl. Græc. Sibth. v.* 1. 238. *Jacq. Austr. t.* 187. *Curt. Mag. t.* 122.
H. botryoides cæruleus. *Ger. em.* 118.

WE can no longer refuse this plant a place in the *Flora Britannica;* though, like many others, unnoticed by Ray and Dillenius, it is so abundantly wild in many places, that nothing but its being amongst our oldest and most vulgar garden flowers, and thence possibly naturalized, could cause a doubt on the subject. It covers the earthy top of the antient city wall on the north side of Norwich for many yards, along with *Teucrium Chamædrys, t.* 680, an equally doubtful native. Our specimen was gathered in grassy fields on a sandy soil at Cavenham, Suffolk, in May last, by the Rev. G. R. Leathes, and we have received others, as certainly wild, from Dr. Lamb of Newbery.

The bulbs are ovate, often crowded, sometimes scattered. Leaves numerous, linear and very narrow, channelled, taper at their base, and loosely spreading. Stalk solitary, shorter than the leaves, erect. Cluster ovate, dense, of numerous deep blue flowers smelling like wet starch, the upper ones sessile and destitute of a pistil. Stamens ranged in 2 rows within the tube. Limb whitish, small. Capsule of 3 lobes, with 2 seeds in each cell.

We dare not separate the genus *Muscari* from *Hyacinthus*, as *H. romanus*, which is truly monopetalous and therefore not a *Scilla*, so naturally combines them. See *Curt. Mag. t.* 939.





Sept. 1. 1808. Published by Jas. Sowerby, London.

RUMEX palustris.

Yellow Marsh Dock.

HEXANDRIA Trigynia.

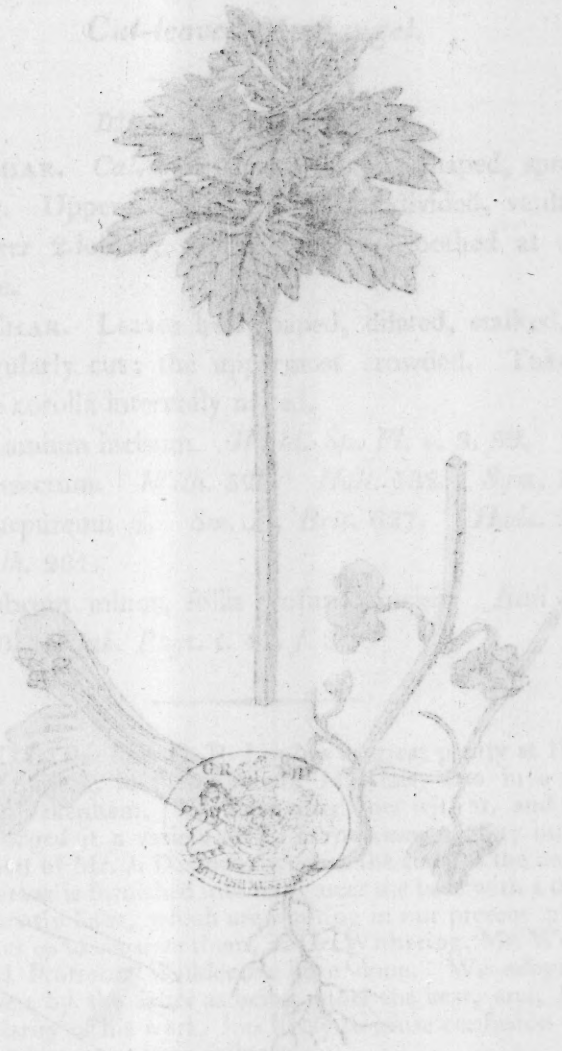
GEN. CHAR. *Cal.* 3-leaved. *Petals* 3, closed. *Seed* 1, superior, naked, triangular. *Stigmas* many-cleft.

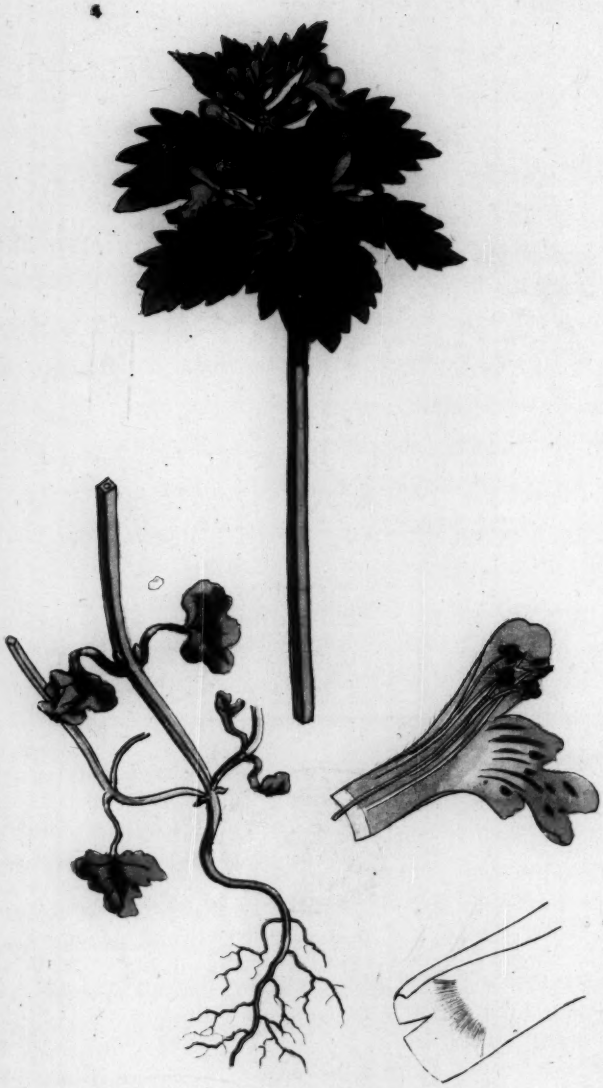
SPEC. CHAR. Valves lanceolate, grained, toothed at the base. Leaves linear-lanceolate. Whorls distant.

SYN. Rumex palustris. *Sm. Fl. Brit.* 394. *Galpine* 30.
R. maritimus. *Huds.* 155 β. *With.* 356. *Hull.* 78.
Curt. Lond. fasc. 3. *t.* 23. *Ehrh. Herb.* 74.
Lapathum aureum. *Dill. in Raii Syn.* 142.

NOT rare in St. George's fields and other marshy places near London, where it flowers in June and July, ripening seed throughout the latter part of summer.

Root perennial, internally red, with whorled fibres. Stem 2 feet high, branched, leafy, furrowed, rough, sometimes reddish. Leaves linear-lanceolate, acute, rather crisped at the edges; the radical ones large in proportion to the rest; the floral ones small and narrow. Whorls numerous, remote when in flower, green, each accompanied by a spreading leaf; in fruit they become more crowded, and tawny, but not of so rich a golden hue as in *R. maritimus*, *t.* 725. Valves of the fruit lanceolate, each bearing an oblong grain, and furnished on each side near the base with 3 bristle-shaped teeth, much shorter than in the *maritimus*, from which we think this species unquestionably distinct.





Sept.1.1808. Published by Jas Sowerby London.

LAMIUM incisum.

Cut-leaved Archangel.

DIDYNAMIA Gymnospermia.

GEN. CHAR. *Cal.* 5-cleft, its teeth awl-shaped, spreading. Upper lip of the *Corolla* undivided, vaulted; lower 2-lobed; orifice inflated, toothed at each side.

SPEC. CHAR. Leaves heartshaped, dilated, stalked, irregularly cut; the uppermost crowded. Tube of the corolla internally naked.

SYN. Lamium incisum. *Willd. Sp. Pl. v.* 3. 89.

L. dissectum. *With.* 527. *Hull.* 132. *Sym.* 136.

L. purpureum β. *Sm. Fl. Brit.* 627. *Huds.* 255. *Relh.* 231.

L. rubrum minus, foliis profundè incisis. *Raii Syn.* 240. *Pluk. Phyt. t.* 41. *f.* 3.

FOUND by the Rev. G. R. Leathes in great plenty at Hunnington, Suffolk, in the middle of May last, also in a field of tares at Pakenham. We have often met with it, and have always judged it a variety of *L. purpureum, t.* 769; but an observation of Mr. J. D. Sowerby, that the tube of the corolla in *purpureum* is furnished internally near the base with a dense row of bristly hairs, which are wanting in our present plant, determines us to separate them, as Dr. Withering, Mr. Woodward and Professor Willdenow have done. We adopt the name given by the latter as being rather the best, and, from the popularity of his work, less likely to cause confusion than one which has never been followed.

The flowers of this *Lamium* approach nearer in form and hue to *L. amplexicaule, t.* 770, than to *t.* 769, especially their marginal teeth, while the leaves more resemble those of the latter. The plant is usually smaller than either, and like them annual. The seeds are like those of *purpureum*, and are ripened in plenty, so that, though an intermediate species, it cannot be supposed a hybrid production.

G.R. III.

Sept. 1.1808. Published by Ja.t Sowerby, London.

CHEIRANTHUS fruticulosus.

Wild Wall-flower.

TETRADYNAMIA Siliquosa.

GEN. CHAR. *Germen* with a glandular tooth on each side. *Calyx* closed; 2 of its leaves gibbous at the base. *Seeds* flat.

SPEC. CHAR. Leaves lanceolate, acute, hoary beneath. Pubescence all simple and close-pressed. Stem somewhat shrubby. Branches angular.

SYN. Cheiranthus fruticulosus. *Linn. Mant.* 94. *Sm. Fl. Brit.* 709. *Galp.* 56. *Relh.* 260.

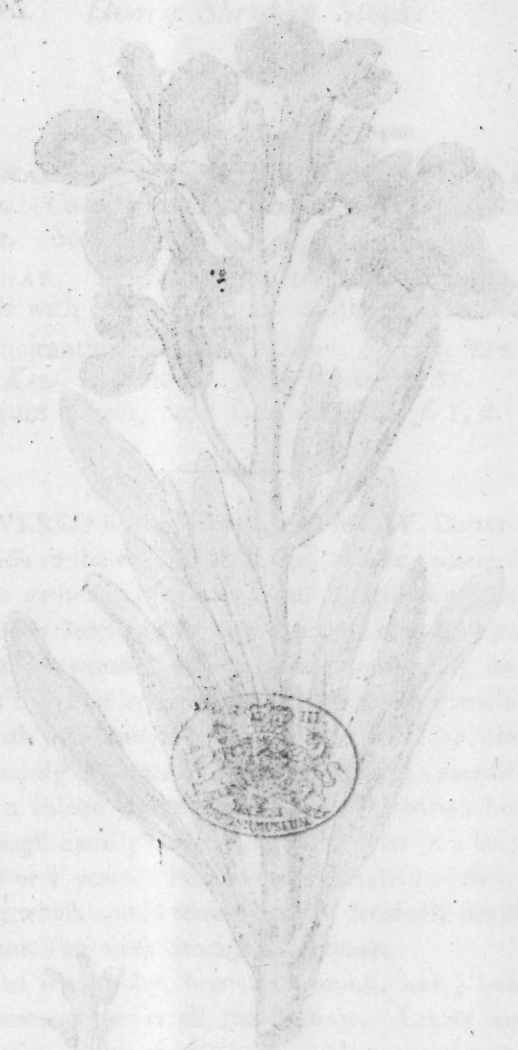
C. Cheiri. *Huds.* 287. *With.* 586. *Hull.* 146. *Sibth.* 202. *Abbot.* 144.

Leucojum luteum, vulgò Cheiri, flore simplici. *Raii Syn.* 291.

ABUNDANT on the old ruined walls of cities, castles and monasteries throughout Britain, where its bright golden flowers are very ornamental and fragrant in April and May.

The roots and stems are perennial and somewhat woody; the branches copious, tufted, erect, leafy, angular, a little hoary, each terminating in a corymbose simple cluster of flowers. Leaves crowded, stalked, lanceolate, acute, for the most part entire except some of the lowermost, all green except a slight hoariness, chiefly beneath, caused by numerous, close-pressed, simple hairs. Calyx often purplish or brown. Petals of an uniform yellow, not stained with brown as in *C. Cheiri*, neither do they, as in that, hang loosely flaccid, but are rather, as the late Mr. Crowe observed, rigid and slightly recurved. Pods erect, nearly cylindrical, hoary, destitute of a pair of small wings near the top noticed by Mr. J. D. Sowerby in *C. Cheiri*, which, if constant, greatly strengthen the specific difference.

It may be proper to mention that *C. fruticulosus* of *Linn. Sp. Pl. ed.* 1. is *C. tristis* of the 2d edition, very different from the above.



Crambe. Published by Jas. Sowerby London.

CHEIRANTHUS incanus.

Hoary Shrubby Stock.

TETRADYNAMIA Siliquosa.

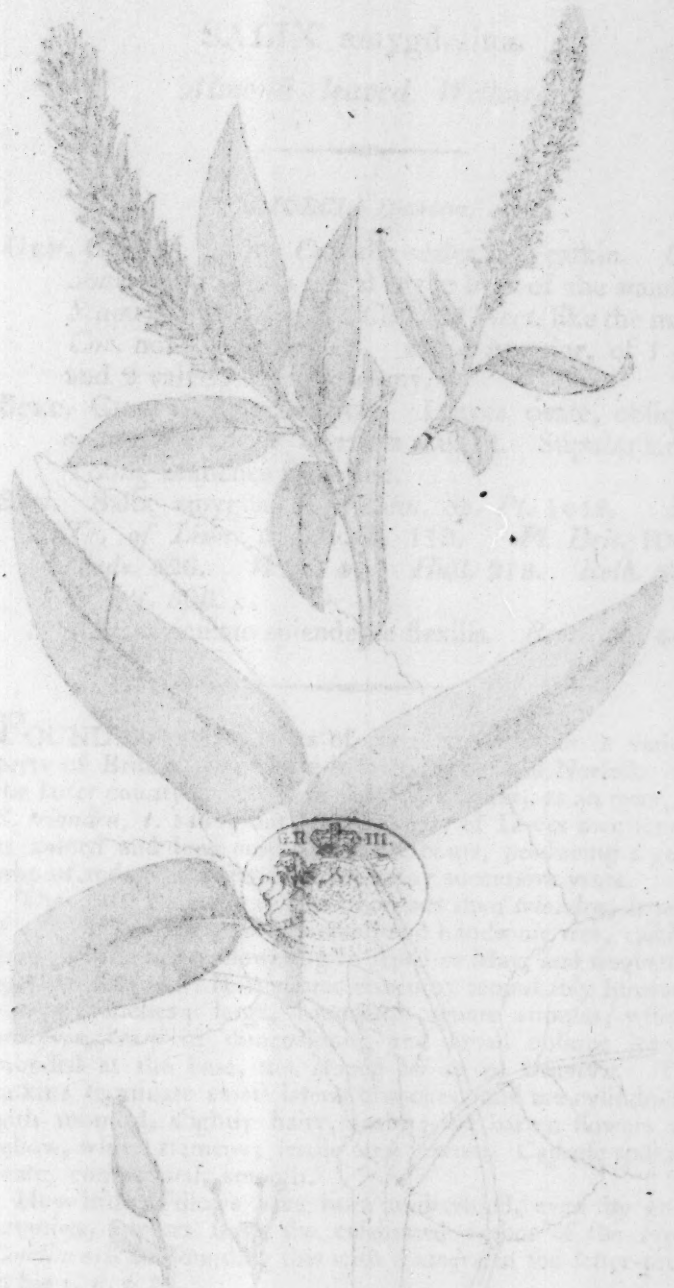
GEN. CHAR. *Germen* with a glandular tooth on each side. *Calyx* closed; 2 of its leaves gibbous at the base. *Seeds* flat.

SPEC. CHAR. Leaves lanceolate, obtuse, entire, hoary. Pods with a simple obtuse summit. Stem shrubby.

SYN. Cheiranthus incanus. *Linn. Sp. Pl.* 924. *Ait. H. Kew. v.* 2. 395. *Mill. Illustr. t.* 55.
Leucojum album, &c. *Ger. em.* 458. *f.* 1, 2.

DISCOVERED by Mr. Turner and Mr. W. Borrer in 1806 on the cliffs to the east of Hastings, Sussex, where this specimen was gathered May 27, 1808. It grows on such inaccessible rocky ledges as to be obtainable only by a person let down from the summit with a rope. Such being its natural station on the coast in the south of Europe, we presume it may be wild with us, though best known in gardens, where it is very commonly cultivated. It frequently falls a sacrifice to our winters, in inland situations, without flowering; but sometimes, though usually biennial, it will survive in a languishing state for 3 or 4 years. Possibly on its native cliffs it may be perennial; which would render it more decidedly distinct from the common Ten-week Stock, *Ch. annuus*.

The stem is shrubby, branched, round, leafy, hoary with starry pubescence, as is all the herbage. Leaves lanceolate, obtuse, entire, taper at the base. Flowers in terminal corymbs, fragrant, naturally of a purplish crimson, often double. Petals rounded and nearly entire, their claws pale and greenish. Pods long, cylindrical, hoary; their points a little elongated, but simple and blunt, crowned with the permanent dilated stigma. Seeds numerous.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Sept.1.1808. Published by Jas Sowerby, London.

SALIX amygdalina.

Almond-leaved Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

SPEC. CHAR. Stamina three. Leaves ovate, oblique, serrated, smooth. Germen stalked. Stipulas large. Young branches furrowed.

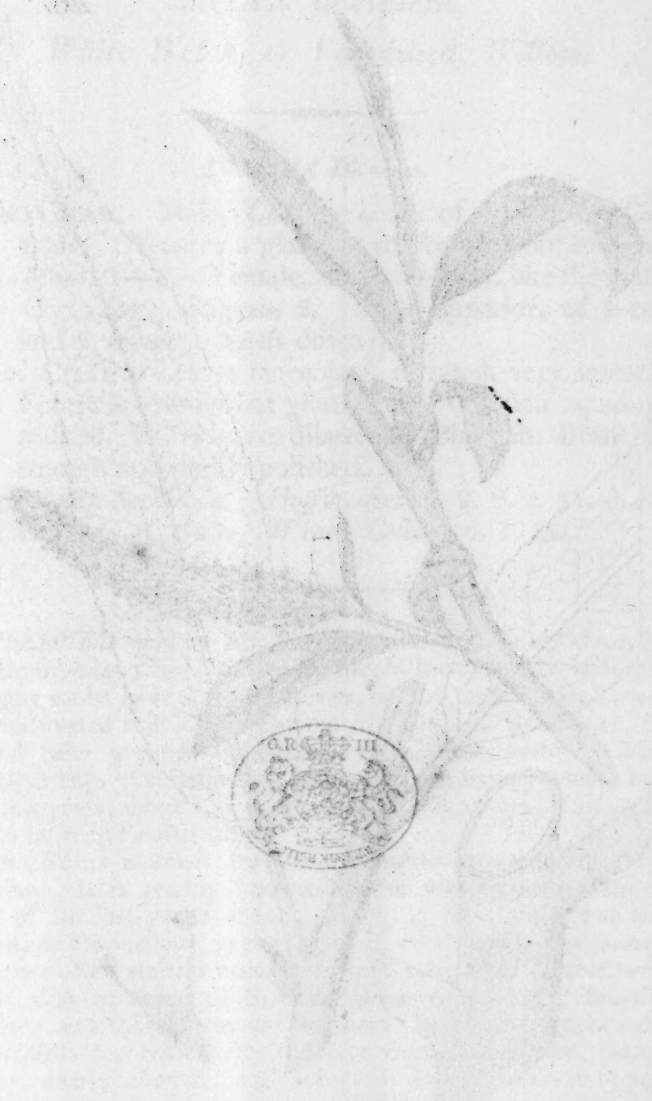
SYN. Salix amygdalina. *Linn. Sp. Pl.* 1443. *Sm. Tr. of Linn. Soc. v.* 6. 119. *Fl. Brit.* 1045. *Huds.* 426. *With.* 47. *Hull.* 218. *Relh.* 384. *Lightf.* 596.

S. folio auriculato splendente flexilis. *Raii Syn.* 448. *Cant.* 144.

FOUND about the banks of rivers and ditches in various parts of Britain. We have it from Sussex and Norfolk. In the latter county it is esteemed much inferior, as an osier, to *S. triandra*, *t.* 1435; but Mr. Woolgar of Lewes mentions it as valued and long cultivated thereabouts, producing a good crop of rods 6 or 8 feet long for many successive years.

Though this species is less arboreous than *triandra*, it will, if allowed to grow, form a small and handsome tree, casting its bark in autumn, flowering in April or May, and frequently again in August. It is characterized by remarkably furrowed young branches; large, rounded, crenate stipulas, which, however, vary in dimensions; and broad oblique leaves, rounded at the base, not sloped off as in *triandra*. The catkins terminate small lateral branches, and are cylindrical, with rounded, slightly hairy, scales; the barren flowers are yellow, with 3 stamens; fertile ones greener. Capsule stalked, ovate, compressed, smooth.

How little Willows have been understood, even by good botanists, appears from the celebrated author of the *Flora Londinensis* confounding this with *triandra* in the letter-press to his *v.* 6. *t.* 72.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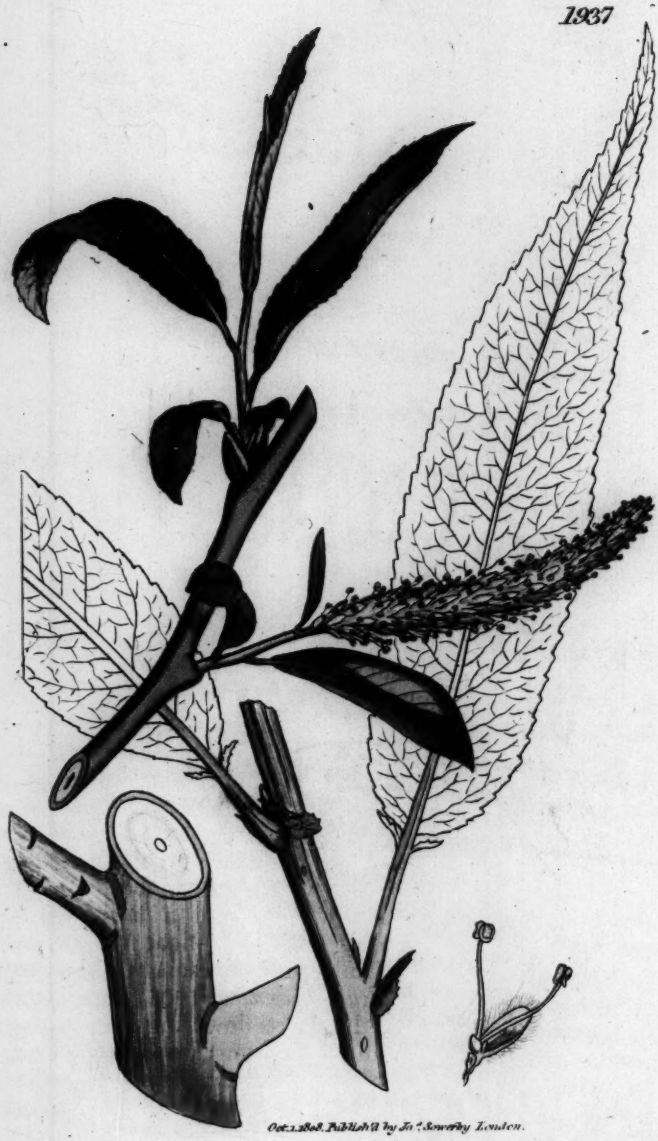


Oct. 1. 1808. Published by Jas. Sowerby London.

SALIX decipiens.

White Welch, or Varnished, Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin. *Cor.* none. *Nectary* a gland at the base of the stamina. *Stam.* 1—5. Female, *Cal.* and *Nect.* like the male. *Cor.* none. *Stigmas* 2. *Caps.* superior, of 1 cell and 2 valves. *Seeds* downy.

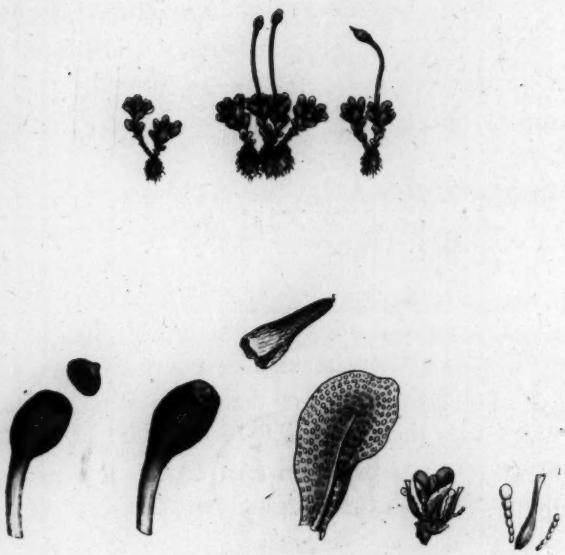
SPEC. CHAR. Leaves lanceolate, serrated, very smooth. Footstalks somewhat glandular. Germen tapering, stalked. Floral leaves dilated and bluntish. Branches smooth and highly polished.

SYN. Salix decipiens. *Hoffm. Sal. v.* 2. 9. *t.* 31. *Fl. Germ. v.* 1. 343. *Winch Guide, v.* 1. 90.

OBSERVED wild by Mr. T. F. Forster near Tunbridge; in Northumberland and Durham by Mr. Winch; by Mr. Woolgar in many moist hedges round Lewes, and by the late Mr. Crowe in a cultivated state, by the name of White Welch Osier, in several osier grounds in Norfolk and Cambridgeshire. Mr. Woolgar says "it produces good rods for basket-work, but in a few years, about Lewes at least, the shoots are so short as not to be worth cultivating."

This forms a small tree of handsome growth, flowering in May. It is readily known by the very smooth shining bark of its last-year's shoots, which is of a light reddish brown, or clay-colour, appearing as if varnished. The young twigs are often stained beautifully with crimson. Leaves very much akin to those of *S. Russelliana, t.* 1808, but mostly smaller; and those borne on the short flowering branches of *S. decipiens* are remarkably different from *Russelliana*, being obtuse, nearly obovate, and recurved, except only the upper one. Stamens 2, very rarely 3. Nectary in the male double. Germen stalked, tapering, smooth. Scales all elliptic-oblong, hairy.

Decipiens is but a bad name, and Hoffmann's account, though very correct, incomplete. Roth merely copies it in his *Fl. Germ. v.* 2. *p.* 2. 506. We have compared authentic specimens.



Sept.1.1808, Publish'd. by Jas. Sowerby, London.

GYMNOSTOMUM Griffithianum.

Succulent Beardless-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Caps.* without a fringe. *Lid* deciduous. *Veil* separating entire from the base.

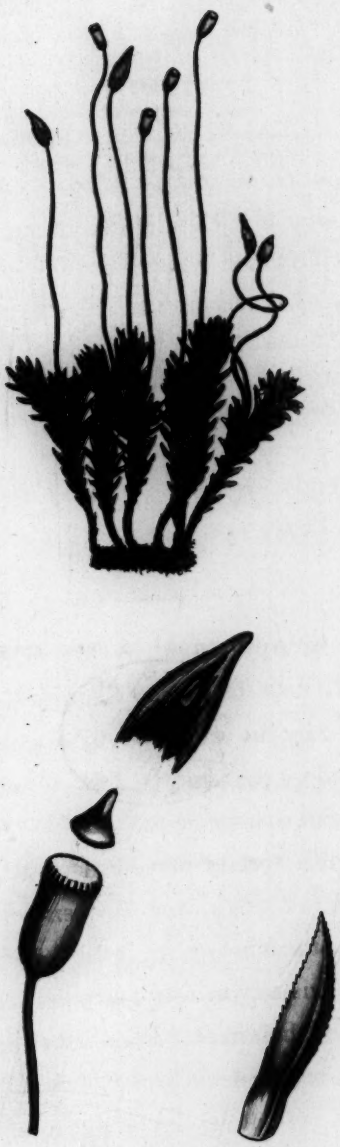
SPEC. CHAR. Leaves spatulate, obtuse, fleshy, with a single rib. Capsule obovate. Lid blunt.

SYN. Gymnostomum Griffithianum. *Sm Fl. Brit.* 1162.
Bryum Griffithianum. *Dicks. Crypt. fasc.* 4. 8. *t.* 10. *f.* 10.
Splachnum frœlichianum. *With.* 794. *Hull.* 246 ♀ but not of Hedwig.

THE gentleman whose name this curious moss bears, and who sent our present specimens, first discovered it on the east side of Snowdon, near the summit. Mr. W. J. Hooker found it this summer very sparingly on Ben Lawers in Scotland, no other botanist than Mr. Griffith and Mr. Hooker having ever gathered the plant in any country.

Root fibrous, perhaps annual. Stems short, simple, or branched from the base, leafy. Leaves imbricated, palish, pellucid and succulent, obovate or spatulate, obtuse, wavy, entire, finely marked with round reticulations, and furnished with a central rib which does not reach the top. Fruitstalk solitary, terminal, succulent, curved. Capsule erect, obovate, brown, smooth. Lid convex, with a little blunt point. Veil conical, acute, brown, white at the base, tipped with the withered stigma. Some plants bear green terminal grain-like bodies, resembling the anthers of a *Sphagnum*.

POLYTRICHUM rubellum.



Sept.r 1.1808, Published by Jas Sowerby, London.

POLYTRICHUM rubellum.

Reddish Dwarf Hair-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Outer fringe* of 32 or 64 short incurved teeth: *inner* a flat undivided membrane. *Veil* generally double: the *outer* hairy.

SPEC. CHAR. Leaves lanceolate, bluntish, serrated in the margin and keel. Capsule cylindrical, oblique. Stem branched.

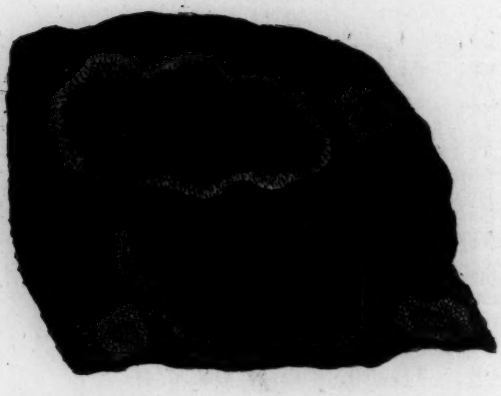
SYN. Polytrichum rubellum. *Menz. Tr. of Linn. Soc. v. 4. 79. t. 7. f. 3. Sm. Fl. Brit. 1381. Hull. 248. Turn. Musc. Hib. 87.*

P. aloides. *Ehrh. Crypt. 45.*

GATHERED in April 1808, by Mr. G. B. Sowerby, in a wood at Darent, near Dartford, Kent; a spot celebrated for affording many rare insects as well as plants, having been much investigated by the late Mr. Lewin, who for some time resided there.

The stem of this species is reddish, much more elongated than in *P. aloides*, *t.* 1649, and frequently branched or subdivided. Indeed the whole plant is taller and larger. Leaves more curled and twisted when dry, serrated nearly throughout, as is a great part of their keel. Fruitstalks commonly an inch and half, sometimes 2 inches, long, twisted, red. Capsule a little oblique, cylindrical inclining to ovate, its mouth slightly dilated. Teeth 32. Lid short, pointed, most conical when young, as in others of this genus.

Most authors have not distinguished this from *P. aloides*.



Nov.r 1, 1808, Publish'd by Jas. Sowerby, London.

LICHEN Hoffmanni.

Hoffmannian Hollow-shielded Lichen.

CRYPTOGAMIA Algæ.

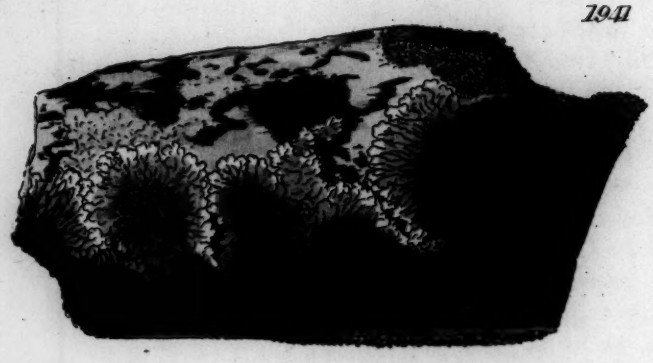
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust indeterminate, greenish ash-colour, formed of tessellated crowded warts. Shields immersed in the raised centre of each wart, nearly flat, brownish, with an undivided, elevated, pale, powdery margin, of the substance of the crust.

SYN. Lichen Hoffmanni. *Ach. Prod.* 31.
L. rupicola. *Hoffm. Enum.* 23. *t.* 6. *f.* 3.
Verrucaria contorta. *Hoffm. Pl. Lich. v.* 1. 97. *t.* 22. *f.* 1—4.
Urceolaria Hoffmanni. *Ach. Meth.* 145. *Winch Guide, v.* 2. 48.

FOUND on rocks, stones and walls in many places. We have it from Wales, Yorkshire, Sussex and Suffolk. It varies much according to its different periods of growth, hence a very able botanist has judged it one state of *L. crenulatus, v.* 13. *t.* 930, which if true might justly bring upon us the censure of our less learned readers for making too many species, for we believe these are as distinct as most of the plants described in our numerous volumes.

This *Lichen* is related to *agelæus, t.* 1730, and *fibrosus, t.* 1732. Its crust in a young state is of a pale greyish green, and consists of numerous angular crowded smooth portions, paler at their edges, raised in their centre, where is lodged one, occasionally 2 or 3, small immersed grey slightly concave shields, with a conspicuous elevated whitish powdery border of the substance of the crust, which border sometimes forms a slightly spiral line. The aggregate crust has a plain, not fibrous, edging. By age it grows whiter, the portions more tumid, and the shields brown or blackish and nearly flat. We have it overrunning loose pebbles on all sides in a dispersed manner.



Oct.1.1808. Published by Jas Sowerby London.

LICHEN circinatus.

Radiant Crustaceous Lichen.

CRYPTOGAMIA Algæ.

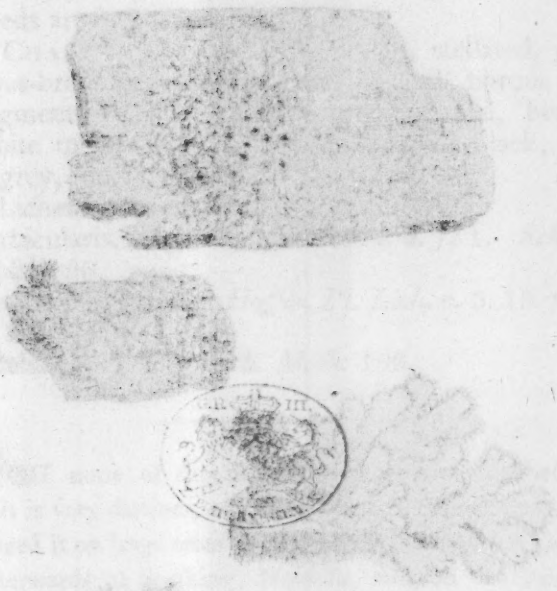
GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

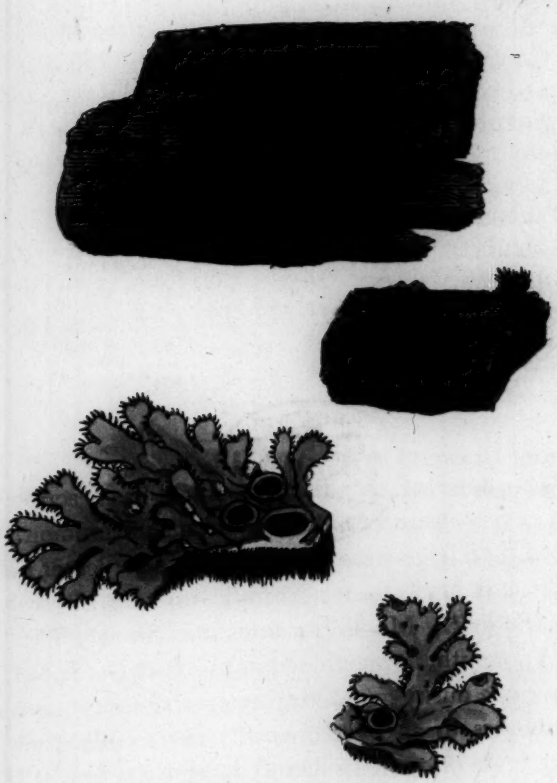
SPEC. CHAR. Crust tartareous, orbicular, greyish, cracked, marked with radiant marginal lobe-like furrows. Shields central, crowded, depressed, blackish brown, at length angular; with a smooth white border.

SYN. Lichen circinatus. *Ach. Prod.* 100. *Persoon in Ust. Ann. fasc.* 7. 25. *Schrad. Spicil.* 94.
L. subimbricatus. *Relh.* 459. *ed.* 1. 427. *t.* 6. *With. v.* 4. 18. *Hull.* 289.
L. radiosus. *Hoffm. Enum.* 62. *t.* 4. *f.* 5.
Psora radiosa. *Hoffm. Pl. Lich. v.* 3. 12. *t.* 59. *f.* 1. *t.* 60. *f.* 3.
Parmelia circinata. *Ach. Meth.* 189. *Winch Guide, v.* 2. 54.

THIS grows on flat calcareous stones, and was sent by the Rev. G. R. Leathes from Bury. We remarked it as a new species on rocks below the bridge at Kirkby Lonsdale, Westmoreland, in 1783. It was however unquestionably first distinguished at Cambridge by Mr. Relhan, who published it the following year. Hoffmann published it the same year, and we know not why neither of their specific names has been retained. To avoid contention and confusion, we submit to that just authority which such a leader in any scientific department as Dr. Acharius has a right to claim, but we wish he had followed the apt name of our countryman, whose figure, drawn in 1783 by Bolton, is excellent. Had *circinatus* been in itself exceptionable, we should have acted as on a former occasion; see *t.* 1778.

The species before us is known by its crust, which though perfectly tartareous and inseparable, is marked with such radiating lines and furrows as to seem lobed and almost imbricated. The innumerable shields are much depressed, occupying the centre, and so crowded as to become angular: their disk dark brown or blackish, deciduous: margin whitish, smooth and entire.





Oct.1.1808 Published by Jas Sowerby London.

LICHEN cycloselis.

Orbicular Dusky Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, depressed, stellated, glaucous-brown; underneath black and fibrous; its segments linear, flattish, cut and lobed, bearing white mealy warts. Shields brownish-black, with a grey, inflexed border.

SYN. Lichen cycloselis. *Ach. Prod.* 113.
L. orbicularis. *Hoffm. Enum.* 68. *t.* 9. *f.* 1. *Schrad. Spicil.* 96.
Placodium orbiculare. *Hoffm. Pl. Lich. v.* 3. 16. *t.* 66. *f.* 1.
Parmelia cycloselis. *Ach. Meth.* 199.

THOUGH none of our British authors has described this *Lichen*, it is very distinct, and by no means uncommon. We first noticed it on large trees in Mr. Crowe's garden at Lakenham, afterwards at Seething, Norfolk, and on old pales at Gisleham, Suffolk. Mr. Borrer finds it in Sussex, Mr. Turner about Yarmouth, as mentioned in the *Bot. Guide* 455, &c.

Its colour is a dusky grey, verging sometimes to a greenish olive, sometimes to an olive brown. The fronds grow circularly, an inch or more in diameter, very flat except in advanced age; their segments closely imbricated and entangled, linear, narrow, cut and subdivided, sometimes a little convex, but mostly flat or concave. The under side is covered with dense black fibres, projecting beyond the edges. Numerous mealy warts stand on the edges of the segments, always nearly white, or pale greenish grey. Shields small, blackish or dark brown, with a thick inflexed pale grey border, crenate when old. They are not fringed underneath as in the foreign *L. ulothrix*.

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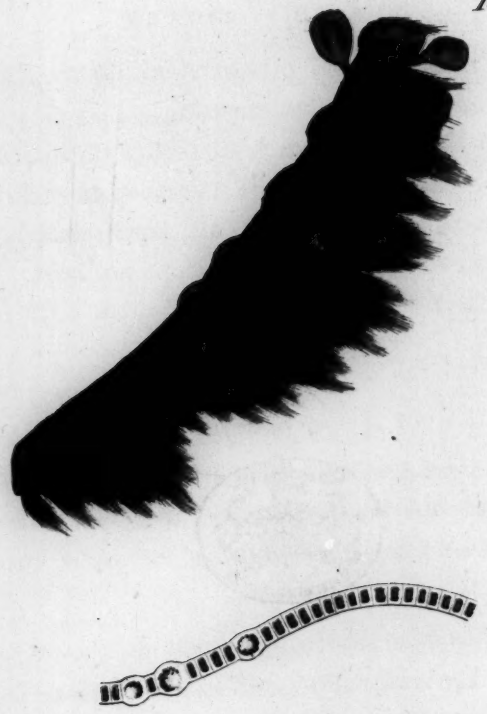


Oct.1.1808. Published by Jas. Sowerby, London.

CONFERVA flacca.

Green Flaccid Conferva.

CRYPTOGAMIA Algæ.

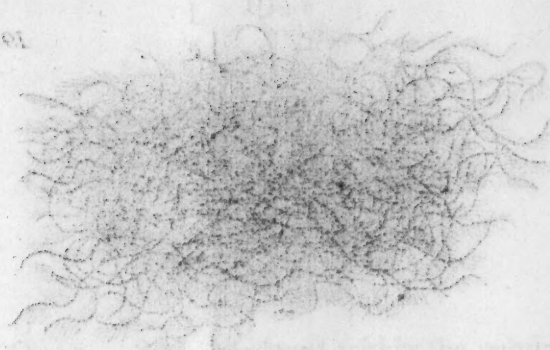
GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

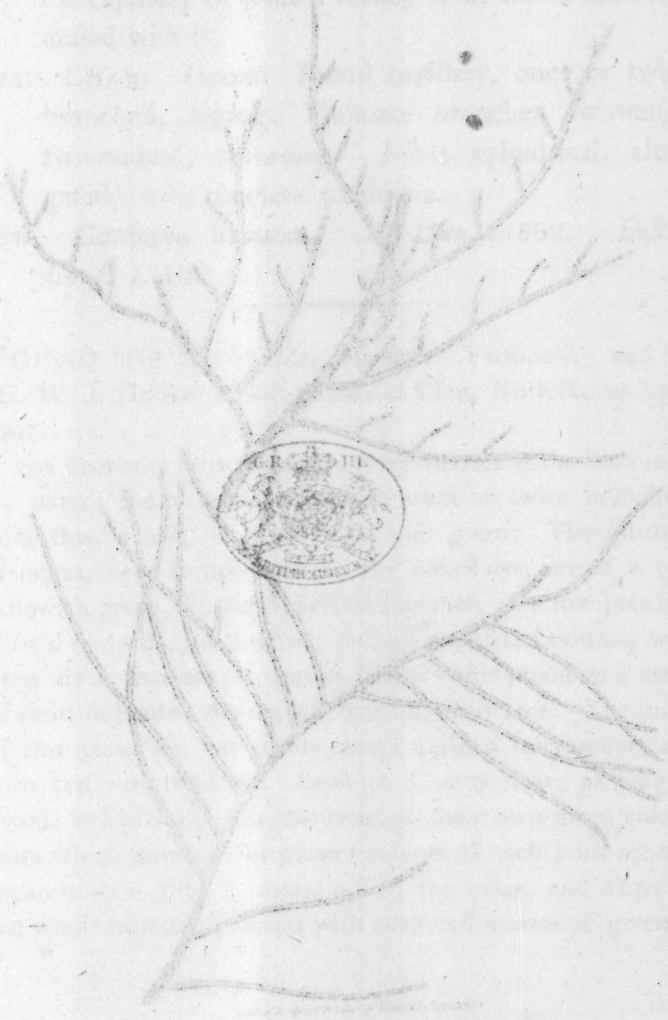
SPEC. CHAR. Green. Filaments unbranched, flaccid, curved, even. Joints all equal, nearly twice as broad as long; their partitions pellucid.

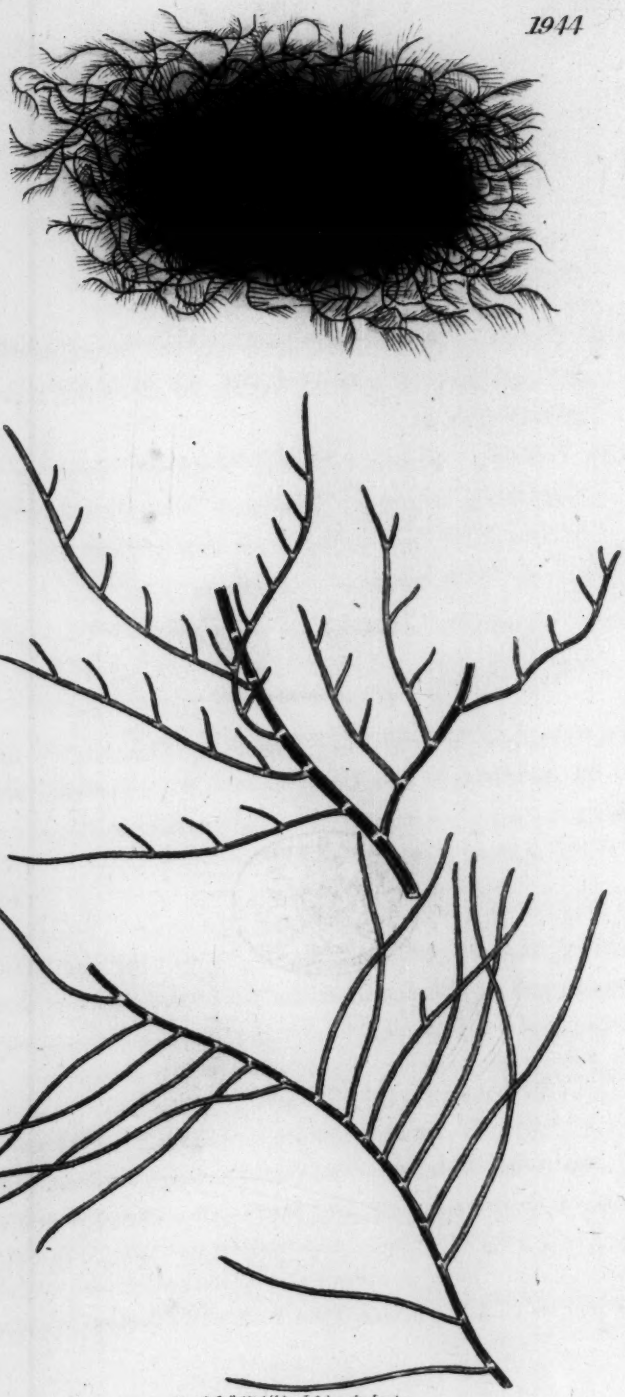
SYN. Conferva flacca. *Dillw. Conf. t.* 49.

MR. DILLWYN has observed this *Conferva* only near Swansea. Our specimens were gathered at Yarmouth by Mr. Turner and Mr. W. J. Hooker. It grows parasitically on *Fuci* in the sea; sometimes on wood exposed to the sea water, and is in perfection in the spring.

The fronds form dense bright-green tufts, and are simple, half an inch to an inch long, soft flaccid and slimy to the touch, by no means rigid, or erect when out of the water. They are very slender. When seen under a high magnifier they appear thread-shaped and even, their joints nearly, if not quite, twice as broad as long, with constantly white pellucid edges and partitions, but the latter are not at all contracted so as to give a beaded aspect to the filament. Some few joints are now and then found enlarged and as if discharging their green contents, which are very probably the seeds.







Oct.1.1808. Published by Jas. Sowerby London.

CONFERVA flexuosa.

Green Zigzag-branched Conferva.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Seeds* produced within the substance of the capillary or jointed frond, or in closed tubercles united with it.

SPEC. CHAR. Green. Frond capillary, once or twice branched, zigzag. Ultimate branches alternately two-ranked, spreading. Joints cylindrical, elongated, with obsolete partitions.

SYN. Conferva flexuosa. *Fl. Dan. t.* 882. *Dillw. Conf. t.* 10.

FOUND long ago by Mr. Turner at Yarmouth; and by Mr. W. J. Hooker in salt ditches at Cley, Norfolk, in April 1807.

The filaments form entangled green masses at the bottom of the water; the principal ones being once or twice branched, finer than a hair, of a dark blackish green. The ultimate branches, very conspicuous to the naked eye, are of a pale yellowish green, disposed, several together, in a row pointing toward one side, the next row being directed the contrary way. They are at first simple, but each afterwards produces a series of short unjointed shoots, all pointing forwards. The joints of this plant are not visible except under a microscope, and then not very striking. Each is 5 or 6 times as long as broad, cylindrical, with partitions of their own green colour, from which however the green contents of each joint seem to separate soon after it comes out of the water, and when dry the whole becomes pellucid with scattered masses of green.